

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
NORFOLK DIVISION**

FUMA INTERNATIONAL LLC, an Ohio
limited liability company,

Plaintiff,

v.

ALTRIA GROUP, INC.; NU MARK LLC;
ALTRIA GROUP DISTRIBUTION
COMPANY; ALTRIA CLIENT SERVICES
LLC; and NJOY, LLC,

Defendants.

Civil Action No. 2:23-cv-231

DEMAND FOR JURY TRIAL

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

For its Complaint against Defendants Altria Group, Inc. (“AGI”), Nu Mark LLC (“Nu Mark”), Altria Group Distribution Company (“AGDC”), Altria Client Services LLC (“ACS”), and NJOY, LLC (“NJOY”), (collectively, “Defendants”), Plaintiff Fuma International LLC (“Fuma”) alleges as follows:

JURISDICTION AND VENUE

1. This is a civil action for patent infringement arising under Title 35 of the United States Code, and in particular 35 U.S.C. §§ 271, 282, 283, 284, and 285.
2. This Court has subject matter jurisdiction over this patent infringement action under 28 U.S.C. §§ 1331 and 1338(a).
3. This Court has personal jurisdiction over Defendants because they solicit and conduct business in Virginia, including the provision of goods, derive revenue from goods sold

in Virginia and within this judicial district, and have committed acts of infringement in this judicial district, including, but not limited to, offering to sell and selling the accused products in this judicial district. Defendant NJOY is a wholly owned subsidiary of AGI, which is incorporated in and resides in Richmond, Virginia in this judicial district. All other Defendants are likewise incorporated in and reside in Richmond, Virginia in this judicial district.

4. Venue lies in this judicial district pursuant to 28 U.S.C. §§ 1391(b) and (c), and 1400(b).

FACTUAL BACKGROUND

THE PLAINTIFF

5. Plaintiff Fuma is a company organized and existing under the laws of the state of Ohio, with its principal place of business at 879 S. Progress Drive, Medina, Ohio 44256. Fuma is in the business of developing and selling innovative products, including electronic cigarettes.



Fuma's Office, Progress Building, Medina Ohio

6. Fuma was founded in 2009 by Greg Conley, his wife, Rebecca Conley, and their friend Daniel Hillenbrandt to develop and commercialize certain of the concepts described in U.S. Patent Nos. 9,532,604 (“the ‘604 Patent,” Ex. A), 10,334,881 (“the ’881 patent”, Ex. O), and 11,497,864 (“the ’864 Patent”, Ex. P) (collectively, “the patents-in-suit”)

7. Prior to conceiving the inventions described in the patents-in-suit, Mr. Conley worked as a technician and engineer for over 15 years and was employed by Rockwell International and ABB (Asea Brown Boveri), Inc., among others, in technical areas such as industrial control systems, robotics, process control, software development, computer design, and wireless technologies, among others.

8. Prior to forming Fuma, Mr. Conley formed Tri-C Technologies LLC under which he provided engineering and technical services as a consultant.

9. In April of 2009, and still operating under Tri-C Technologies LLC entity, Mr. Conley, Mrs. Conley, and Mr. Hillenbrandt became a distributor in Ohio of e-cigarette devices sold by a company called Smoke Anywhere USA, Inc., a.k.a. “Smoke 51.” Those e-cigarette devices are shown in the Wikipedia page that is listed on the first page of the patents-in-suit under the heading “OTHER PUBLICATIONS.” Tri-C Technologies LLC terminated its relationship with Smoke Anywhere USA, Inc. and ceased distribution of the products later that same year.

10. Recognizing that the e-cigarette devices Tri-C Technologies LLC had been distributing under the agreement with Smoke Anywhere USA, Inc. were deficient in numerous ways, Mr. Conley thought of new designs for an e-cigarette device. Mr. Conley enlisted Dan Hillenbrandt, whose background is in precision manufacturing, to help in developing the new e-

cigarette designs. Together with Rebecca Conley, they formed Fuma in July of 2009 to further develop and commercialize the concepts described in the patents-in-suit.

11. Mr. Conley and Mr. Hillenbrandt filed Provisional Patent Applications on July 27, 2009 (Provisional Application No. 61/271,819) and July 31, 2009 (Provisional Application No. 61/273,097) in the United States Patent Office that describe some of their concepts for a new e-cigarette design.

12. Mr. Conley and Mr. Hillenbrandt followed up their provisional patent applications with a Regular Patent Application that they filed in the United States Patent Office on July 27, 2010 (Application No. 12/843,917) and that claimed priority to their Provisional Patent Applications.

13. According to U.S. Patent Office Procedures, the contents of Fuma's provisional applications filed in 2009 and the Regular Patent Application Fuma filed in on July 27, 2010 remained restricted from public access and confidential until the first publication in the Patent family by the U.S. Patent Office on Aug. 29, 2013. (Publication No. US 2013/0220315 A1).

14. The patents-in-suit resulted and issued from the Provisional and Regular patent applications that Mr. Conley and Mr. Hillenbrandt filed in July 2009 and July 2010, as shown under the heading "Related U.S. Application Data" on the first page of the '604, '881 and '864 Patents.

15. During 2009, Mr. Conley and Mr. Hillenbrandt worked to develop their concepts for a new e-cigarette device. Mr. Conley and Mr. Hillenbrandt had prototypes of their new e-cigarette device manufactured by a supplier, Trans-Power International Co., Ltd. ("Trans-Power"), in China under conditions of confidentiality.

16. Fuma introduced its new e-cigarette device to the marketplace in August 12-14, 2009 at the Tri-State Tobacco and Candy Convention held at the Belterra Casino Resort and Spa in Belterra, Indiana. At the convention, Mr. Conley, for the first time, displayed final prototypes of the Fuma e-cigarette.

17. By no later than September 17, 2009, Mr. Conley and Mr. Hillenbrandt received in the United States commercial versions of their new e-cigarette that embodied the patented design of the '604, '881, and '864 Patents and that had been manufactured by their supplier, Trans-Power, in accordance with design instructions and fabrication details provided by Mr. Conley. (*See*, Ex. B, Trans-Power Invoice dated September 17, 2009.).

18. In September 2009, Fuma began offering for sale and selling their new product in the United States.

19. No later than November 2009, Fuma sold and delivered to customers in the United States their e-cigarette devices ("Fuma e-cigarette") made in accordance with the patents-in-suit. (*See* Ex. C, Invoice from Fuma to Great Midwest Tobacco, Evandale, Ohio dated November 5, 2009; Ex. D, Invoice from Fuma to Adco Distributing, Canton, Ohio dated November 20, 2009).

20. The Fuma e-cigarette is covered by and incorporates the invention defined by the claims of the patents-in-suit that are asserted in this case, specifically at least claims 4, 6, 12, 13, 14, 15, 16 and 18 of the '604 Patent, one or more claims of the '881 Patent, and at least claims 1, 2, 5, 6, 9-15, 17, 20, 21, 22, 25, 26, 29-34, 38-41, 45, and 46 of the '864 Patent. The Fuma e-cigarette constitutes and establishes an actual reduction to practice, in the United States, of the invention covered by at least the asserted claims of the patents-in-suit no later than September of 2009.

21. The devices that Fuma had manufactured and delivered to its facility in Medina, Ohio in September 2009 meet all the elements of at least the asserted claims of the patents-in-suit. (*See* Ex. E, Nov. 2, 2018 Declaration of G. Conley under 37 C.F.R. § 1.131).

22. Fuma's new e-cigarette devices were met with immediate success in the market. Fuma's sales went from approximately \$50,000 in the last quarter of 2009, to \$772,524 in 2010, to \$2,919,916 in 2011.

23. Fuma's success with its e-cigarette was recognized by others in the relevant field of technology shortly after it was introduced. Specifically, R.J. Reynolds Tobacco Company, through its Senior Vice President of Innovation, Mr. Dennis Potter, requested and was provided samples of Fuma's original versions of its patented e-cigarette in June 2009. After analyzing and testing the Fuma e-cigarettes, Mr. Potter reported to his superiors and co-workers at R.J. Reynolds Tobacco Company that the Fuma patented design was better than any of the e-cigarettes that Mr. Potter had previously analyzed and that it provided a user experience that more closely mimicked regular cigarette use. (Ex. F, D. Potter e-mail dated June 29, 2010, RJRV-F000684464).

24. R.J. Reynolds proceeded to market products that infringe Fuma's patent rights. Fuma sued R.J. Reynolds, and, in November 2021, R.J. Reynolds settled the litigations brought by Fuma. R.J. Reynolds paid Fuma a confidential amount to settle the litigations, purchased a license under the Fuma patents-in-suit, and agreed to mark their infringing products with the applicable Fuma patent numbers.

25. The Defendants have also marketed and sold products that infringe Fuma's patent rights, but the Defendants have not been authorized to do so and have not been granted a license to the Fuma patents-in-suit.

THE DEFENDANTS

26. Upon information and belief, Defendant AGI is a corporation organized and existing under the laws of the Commonwealth of Virginia with offices at 6601 West Broad Street, Richmond, Virginia 23230. Defendant AGI is a holding company and the ultimate parent entity of defendants Nu Mark, AGDC, and ACS.

27. Upon information and belief, Defendant Nu Mark is a corporation organized and existing under the laws of the Commonwealth of Virginia with offices at 6601 West Broad Street, Richmond, Virginia 23230. Nu Mark manufactured and marketed MarkTen® and Green Smoke® e-vapor products. Nu Mark was an active operating company selling e-cigarettes in the United States from 2012 to 2018.

28. Upon information and belief, Defendant AGDC is a corporation organized and existing under the laws of the Commonwealth of Virginia with offices at 6601 West Broad Street, Richmond, Virginia 23230. AGDC provides sales and distribution services to the Altria operating subsidiaries.

29. Upon information and belief, Defendant ACS is a corporation organized and existing under the laws of the Commonwealth of Virginia with offices at 6601 West Broad Street, Richmond, Virginia 23230. ACS provides various support services to the operating companies in areas such as legal regulatory, finance, human resources, and government affairs.

30. Upon information and belief, Defendant NJOY is a Delaware corporation with a principal place of business at 7047 E. Greenway Parkway, Suite 250, Scottsdale, Arizona 85254. Defendant may be served via its registered agent, Capitol Corporate Services, Inc., at 10 S Jefferson St Ste 1800, Roanoke, Virginia 24011.

31. Upon information and belief, Defendant NJOY was purchased by AGI as part of a transaction that completed on or about June 1, 2023. NJOY is now a wholly owned subsidiary of AGI and provides sales and marketing support for the sale of various e-vapor products. NJOY previously manufactured and marketed e-vapor products including the NJOY Vape Pen and NJOY Loop, and NJOY currently manufactures and markets e-vapor products including the NJOY Ace product.

Altria Failed to Design a Successful Alternative Smoking Device of Its Own and Instead Adopted and Infringed Fuma's Patented Design.

32. Altria spent in excess of \$2 billion on the development of reduced-risk products before it entered the e-vapor industry. Altria did not have success with its internally developed products.

33. Altria spent \$350 million to create the Center for Research and Technology to focus on internal development of reduced risk products, and the Center for Research and Technology, which opened in 2007, is a state-of-the-art facility with 150,000 square feet of lab space, leading equipment, and hundreds of scientists. Nevertheless, Altria has still not successfully commercialized an internally developed project.

34. Nu Mark was established as a new operating company of Altria in 2012 with the goal of having a range of products that Altria could use to convert smokers away from smoking and to innovative products, like electronic cigarettes.

35. Altria's former CEO, Howard Willard, testified under oath that Altria put substantial resources into Nu Mark and spent well over half a billion dollars investing in the e-vapor category. That investment included internal development as well as product acquisitions.

36. Altria found that development for electronic products like e-cigarettes required an entirely different construct than what was required for conventional tobacco products such as

cigarettes. It required engineering skills, software skills and it is much harder to develop innovative electronic products than it is to maintain and line extend products that are in the combustible cigarette business.

37. Altria launched five internal projects to develop e-vapor devices beginning in 2013, none of which had yielded a viable product by 2018.

38. Because it could not develop an e-vapor product, Altria turned to acquiring existing products. Every product that Nu Mark launched into the marketplace was a result of an external acquisition, licensing arrangement, or partnership with another e-vapor company.

39. In 2013, Nu Mark introduced its first e-vapor product, a cig-a-like called MarkTen King Size. That product came from a Chinese contract manufacturer named Kimree. MarkTen King Size was essentially a shorter version of the later iteration, MarkTen XL. Altria abandoned the MarkTen King Size in favor of MarkTen XL in 2015.

40. In April 2014, Nu Mark acquired the e-vapor business of an Israeli company named Green Smoke, Inc. Nu Mark incorporated Green Smoke's technology into a new iteration of the MarkTen brand, the "MarkTen XL," which also was a cig-a-like.

41. After the launch of MarkTen XL, Nu Mark kept the Green Smoke brand in the market and used it to target an older adult vaper consumer demographic and explore alternative distribution channels, such as tobacco stores and e-commerce.

42. In 2016, shipment volume for Nu Mark's e-vapor products had grown by six percent. Since its launch in 2015, MarkTen had expanded to 51,000 stores and Nu Mark planned to add an additional 21,000 stores in 2017.

43. During March and April of 2017, Altria and Fuma communicated regarding the '604 patent that had issued in January of that same year. On March 3, 2017, Mr. Conley of

Fuma contacted Eric Hawes, Director, E-Vapor Technology and Platform Development at Altria and informed Altria of “[t]he issued US utility patent . . . 9,532,604.” (Ex. G, 2017 03 03 through 2017 04 05 LinkedIn conversation between G. Conley and E. Hawes at 2). Mr. Hawes arranged a telephone conversation that took place on March 10, 2017. (*Id.* at 5). During that phone call, Altria showed interest in Fuma’s ’604 Patent and it was agreed that Fuma would send Altria samples of Fuma’s products. (Ex. H, 2017 03 10 E-mail from G. Conley to E. Hawes of Altria). Mr. Conley e-mailed Mr. Hawes on March 22, 2017, confirming that Fuma product samples had been sent to Altria, and included a copy of the ’604 patent and other material describing the ’604 patent technology. (Ex. I, 2017 03 22 E-mail from G. Conley to E. Hawes of Altria (with attachments)).

44. On March 23, 2017, Mr. Hawes confirmed receipt of the ’604 patent and related materials, and Mr. Hawes stated that he was “meeting with some of our IP team later next week and will review,” and arranged a follow-up call for April of 2017. (Ex. J, 2017 03 23 E-mail from E. Hawes of Altria to G. Conley). Mr. Hawes and Mr. Conley met by phone again on April 13, 2017, and discussions between the parties concluded. (Ex. K, 2017 04 13 Meeting Invite from E. Hawes to G. Conley). Despite Altria’s knowledge of both Fuma and Fuma’s ’604 patent, Altria never purchased a license for the ’604 patent nor did Altria obtain Fuma’s permission to sell products that were infringing the ’604 patent. Instead, Altria continued to sell its infringing MarkTen XL and Green Smoke products.

45. In February 2018, and after discussions with Fuma had concluded, Defendants introduced the MarkTen Elite product.

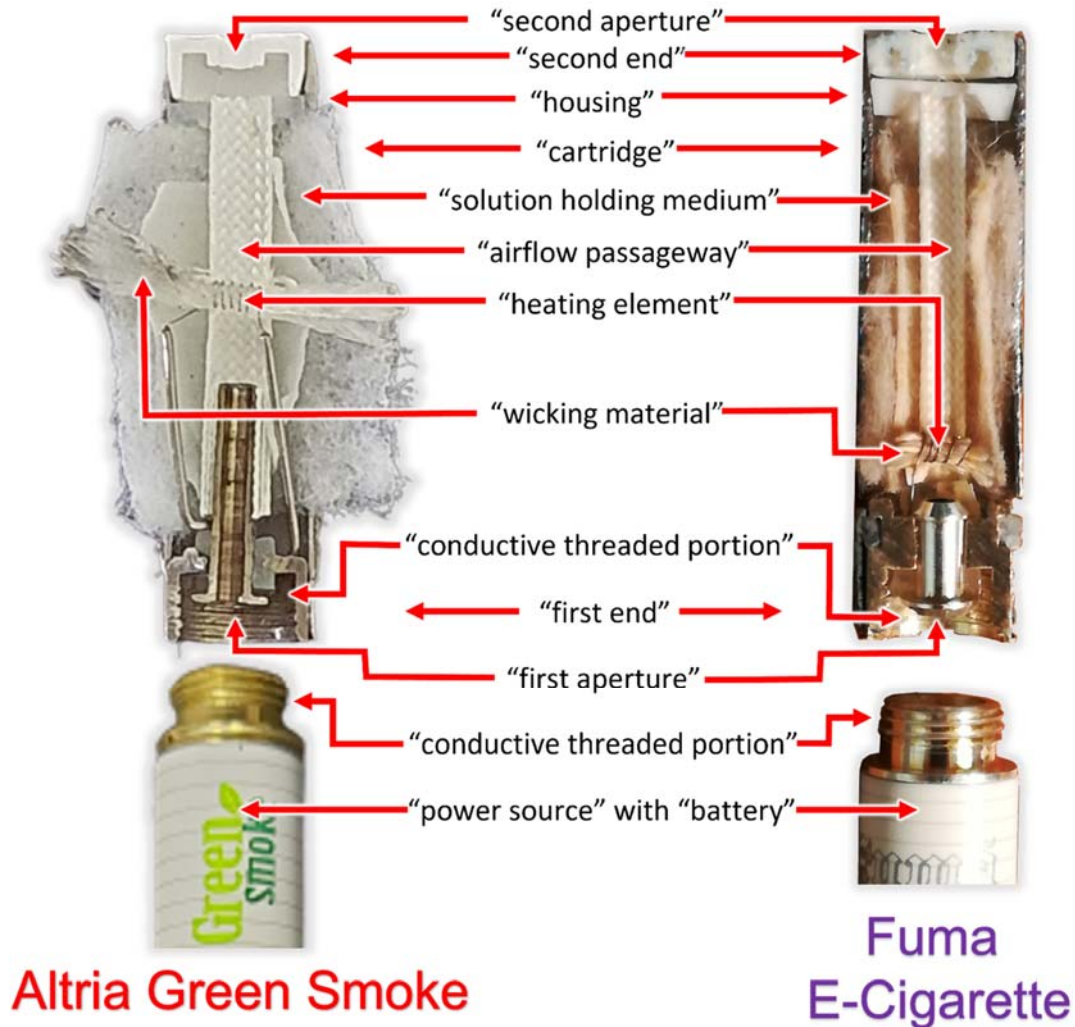
46. Fuma initiated enforcement proceedings under its patents, including the ’604 and ’881 Patents, against R.J. Reynolds Vapor Company in 2019 by filing suit in the U.S. District

Court for the Middle District of North Carolina. The parties reached settlement in November 2021 just before trial was to begin, with R.J. Reynolds Vapor Company making a substantial payment in return for a non-exclusive license to the patents-in-suit.

47. On May 20, 2022, Fuma sent a letter to the general counsel of Altria Group, Inc., Mr. William F. Gifford, Jr., offering to license the Fuma patents to Altria in return for an appropriate royalty on Altria's infringing sales. The letter also identified the previous settlement and license with R.J. Reynolds Vapor Company, as well as providing detailed claim charts and a draft complaint.

48. Counsel for Fuma and counsel for Altria communicated after Altria received the letter, at which time Fuma requested that Altria identify, under conditions of confidentiality, the total revenue and profit of its infringing sales. Altria declined to provide the requested information and never made a settlement offer, thereby necessitating the filing of the current lawsuit.

49. The MarkTen XL, Green Smoke, and MarkTen Elite products are all substantial copies of the patented structure of the original Fuma E-Cigarette. Pictured below is one of the devices that Fuma had manufactured and delivered to its facility in Medina, Ohio in September 2009 compared side-by-side with the Altria Green Smoke and labeled to identify features of the asserted '604 Patent claims.



50. After making a \$12.8 billion dollar investment for a 35 percent minority stake in JUUL Labs, Inc., Defendants withdrew the MarkTen XL, Green Smoke, and MarkTen Elite products from the market, but Defendants remain liable for infringement that occurred after the '604 Patent issued on January 3, 2017.

51. On or about March of 2023, Altria exited its \$12.8 billion-dollar investment in JUUL Labs, Inc., in exchange for a non-exclusive, irrevocable global license to certain of JUUL's heated tobacco intellectual property.

52. That same month, Altria announced they would re-enter the e-cigarette market by acquiring NJOY for approximately \$2.75 billion in cash. Upon information and belief, Altria completed the purchase of NJOY as of June 1, 2023.

53. Altria's acquisition of NJOY is just the latest acquisition by Altria of products that infringe the Fuma patents-in-suit.

54. Upon information and belief, the NJOY Vape Pen product, believed to have been sold by NJOY since at least the issuance of the '604 patent in January of 2017 until approximately September of 2018, infringed at least one claim of the '604 patent.

55. Upon information and belief, the NJOY Loop product, believed to have been sold by NJOY since approximately October of 2018 until approximately 2020, infringed at least one claim of the '604 and '881 patents.

56. Fuma has been unable to obtain samples of NJOY's Vape Pen and Loop products for the purposes of this complaint because NJOY discontinued the sale and marketing of these products in or before the year 2020. Fuma anticipates obtaining additional evidentiary support of infringement of the '604 and '881 patents, as alleged in the preceding paragraphs, after a reasonable opportunity for further investigation and discovery.

57. Altria's acquisition of NJOY is principally in view of NJOY's current NJOY Ace product that is available in approximately 33,000 U.S. retail stores and represents approximately 85 percent of NJOY's 2022 total retail shipments, with sales well over \$100 million in 2022.

58. The NJOY Ace product infringes claims 1, 2, 5, 6, 9-15, 17, 20, 21, 22, 25, 26, 29-34, 38-41, 45, and 46 of Fuma's '864 Patent.

THE PATENTS-IN-SUIT

59. On January 3, 2017, the U.S. Patent Office duly and legally issued United States Patent No. 9,532,604 (“the ’604 Patent”) entitled “Electronic Vaporizer.” Fuma holds all substantial rights, title, and interest to the ’604 Patent. A true and correct copy of the ’604 Patent is attached as Exhibit A.

60. On July 2, 2019, the U.S. Patent Office duly and legally issued United States Patent No. 10,334,881 (“the ’881 Patent”) entitled “Electronic Vaporizer.” Fuma holds all substantial rights, title, and interest to the ’881 Patent. A true and correct copy of the ’881 Patent is attached as Exhibit O.

61. On November 15, 2022, the U.S. Patent Office duly and legally issued United States Patent No. 11,497,864 (“ the ’864 Patent”) entitled “Electronic Vaporizer.” Fuma holds all substantial rights, title, and interest to the ’864 Patent. A true and correct copy of the ’864 Patent is attached as Exhibit P.

INFRINGEMENT OF U.S. PATENT NO. 9,532,604

62. Fuma hereby realleges each allegation set forth in the paragraphs above as though fully set forth herein.

63. Upon information and belief, Defendants had both actual and constructive knowledge of the ’604 Patent soon after issuance based on Fuma’s marking of its products with the ’604 Patent number.

64. Defendants have had actual knowledge of the ’604 Patent no later than March of 2017 when Mr. Conley contacted Mr. Hawes, and Defendants knew that their activities constituted infringement of the ’604 Patent.

65. Defendants have directly infringed the '604 Patent in violation of at least 35 U.S.C. § 271(a) by, themselves and/or through their agents, unlawfully and wrongfully making, using, importing, offering to sell, and/or selling vaporizing device products embodying one or more of the inventions claimed in the '604 Patent, within, from and/or into the United States without permission or license from Plaintiff.

66. The vaporizing products that directly infringe the '604 Patent include the MarkTen XL, Green Smoke, and MarkTen Elite.

67. Upon information and belief, NJOY's Vape Pen and Loop products also directly infringed one or more claims of the '604 patent.

68. The images of the products set forth herein accurately show the features of the MarkTen XL, Green Smoke, and MarkTen Elite.

69. The accused products infringe the '604 patent literally and/or under the doctrine of equivalents.

70. The MarkTen XL (including variants such as the MarkTen Bold XL) product infringes at least claims 4, 6, 12, 13, 14, 15, and 18 of Fuma's '604 Patent, the Green Smoke product infringes at least claims 4, 6, 12, 13, 14, 15, 16, and 18 of Fuma's '604 Patent, and the MarkTen Elite product infringes at least claims 4, 6, 12, 13, 14, 15, 16, and 18 of Fuma's '604 Patent.

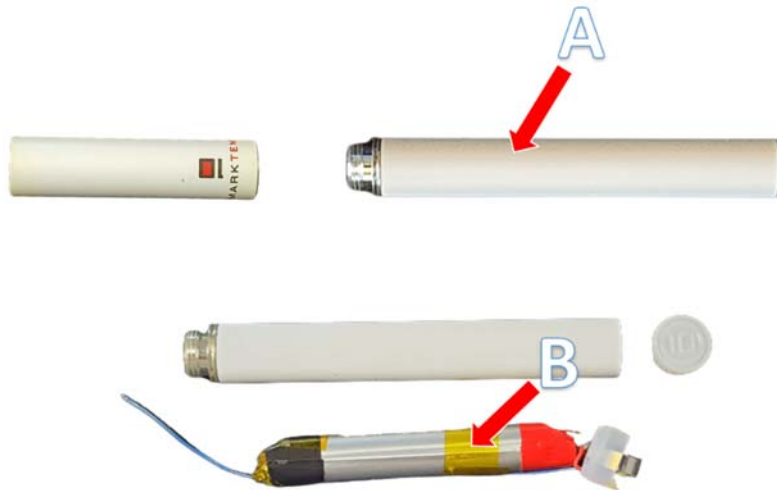
Direct Infringement: Altria MarkTen XL

71. Claim 1 of the '604 Patent reads as follows:

1. An apparatus comprising:
a power source,
wherein the power source includes a battery,
wherein the power source includes an electrically
conductive threaded portion; and
a cartridge having a housing that comprises an interior,
wherein the housing includes a first end and a second
end that is opposite the first end, wherein the housing
includes a first aperture on the first end and a second
aperture on the second end,
wherein the housing includes an airflow passageway
that extends centrally and axially with respect to the
housing intermediate of the first aperture on the first
end of the housing and the second aperture on the
second end of the housing,
wherein the airflow passageway is configured to
allow art airflow through the cartridge from the
first aperture to the second aperture of the housing,
wherein the first end of the housing includes an
electrically conductive threaded portion that is
adapted to mechanically and electrically couple to
the electrically conductive threaded portion of the
power source,
wherein the housing includes a solution holding
medium comprising a solution located in the interior
of the housing,
wherein the solution holding medium surrounds the
airflow passageway in the interior of the housing
and intermediate of the first end and the second
end,
wherein the housing includes a heating element located
in the interior of the housing,
wherein the heating element is electrically config-
ured to vaporize at least a portion of the solution
for oral provision to an individual in the airflow
from the second aperture responsive to electrical
power received from the battery through the elec-
trically conductive threaded portions of the car-
tridge and power source.

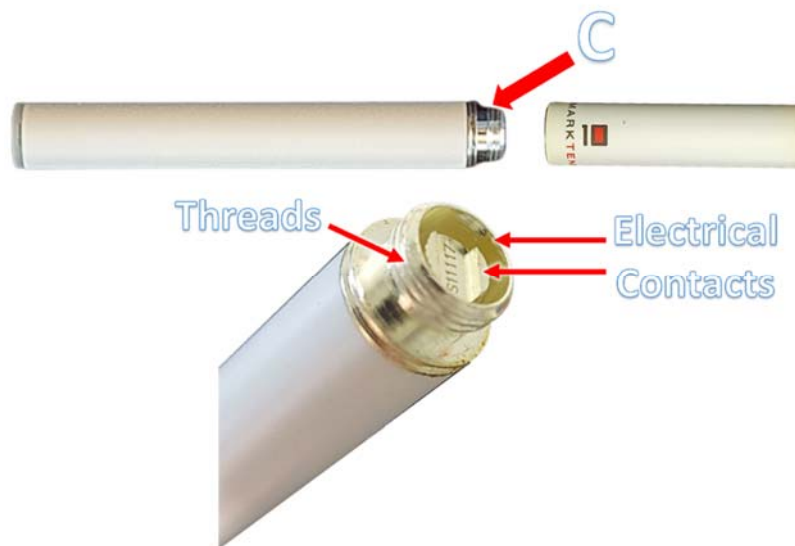
72. As shown in the figures set forth in paragraphs 73 through 83, the MarkTen XL meets every limitation recited in Claim 1 of the '604 Patent.

73. The MarkTen XL includes “a power source [A], wherein the power source [A] includes a battery [B]” as recited in Claim 1 of the '604 Patent.



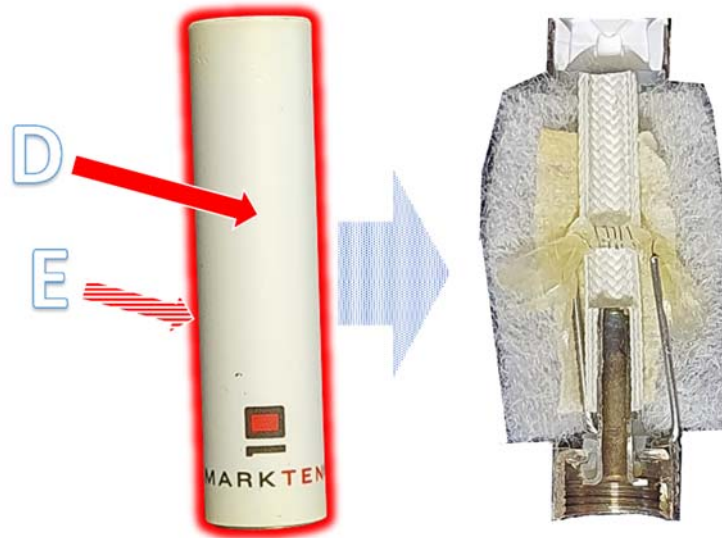
MarkTen XL Figure 1.a.

74. The MarkTen XL's power source "includes an electrically conductive threaded portion [C]."



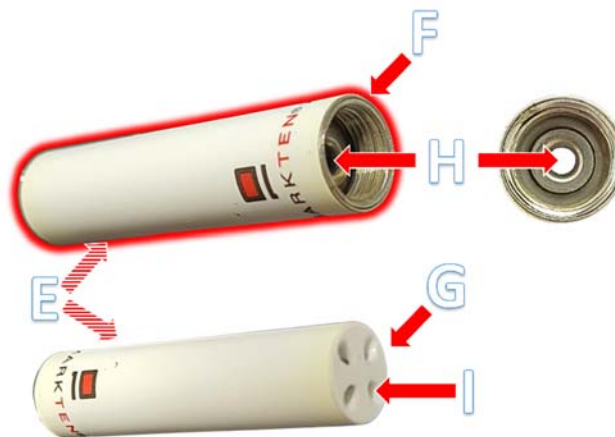
MarkTen XL Figure 1.b.

75. The MarkTen XL includes “a cartridge [D] having a housing [E] that comprises an interior.”



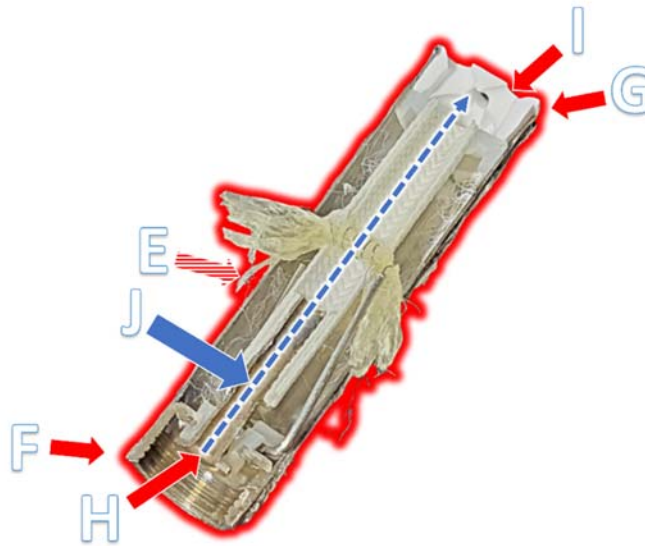
MarkTen XL Figure 1.c.

76. The MarkTen XL’s housing “includes a first end [F] and a second end [G] that is opposite the first end [F], wherein the housing [E] includes a first aperture [H] on the first end [F] and a second aperture [I] on the second end [G].” Any of the apertures on the second end [G] of the Altria MarkTen XL product satisfies the second aperture [I] requirement (one illustrated):



MarkTen XL Figure 1.d.

77. The MarkTen XL's housing "includes an airflow passageway [J] that extends centrally and axially with respect to the housing [E] intermediate of the first aperture [H] on the first end [F] of the housing and the second aperture [I] on the second end [G] of the housing."



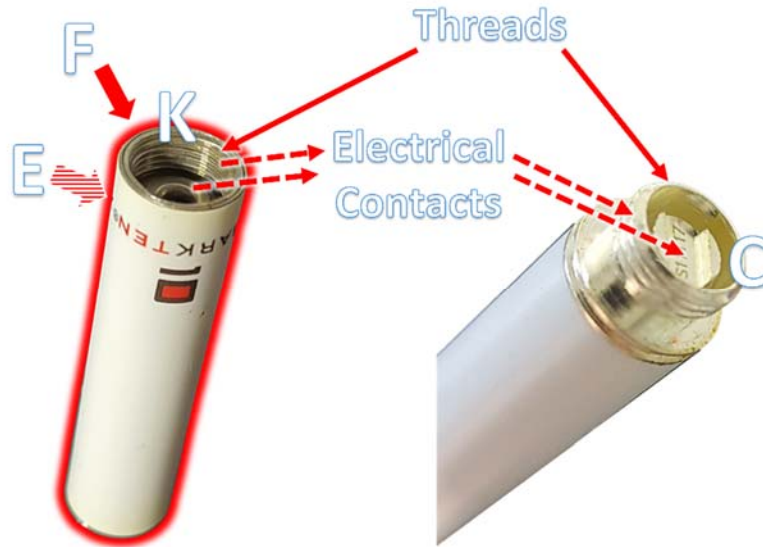
MarkTen XL Figure 1.e.

78. The MarkTen XL's "airflow passageway [J] is configured to allow art [sic] airflow through the cartridge [D] from the first aperture [H] to the second aperture [I] of the housing [E]."



MarkTen XL Figure 1.f.

79. The MarkTen XL has a housing “wherein the first end [F] of the housing [E] includes an electrically conductive threaded portion [K] that is adapted to mechanically and electrically couple to the electrically conductive threaded portion of the power source [C].”



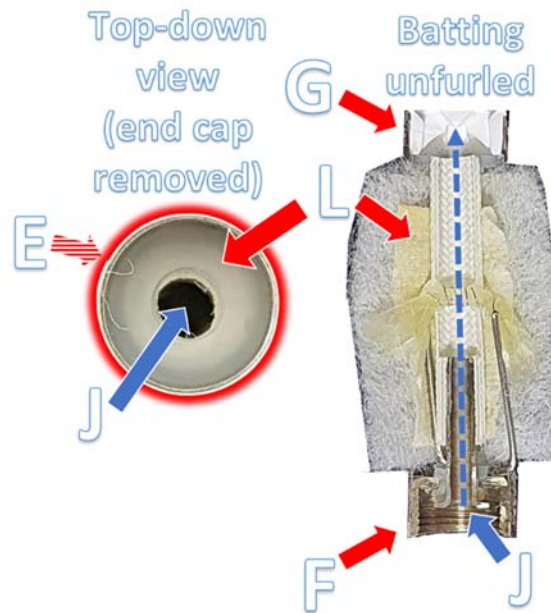
MarkTen XL Figure 1.g.

80. The MarkTen XL’s housing “includes a solution holding medium [L] comprising a solution [M] located in the interior of the housing [E].”



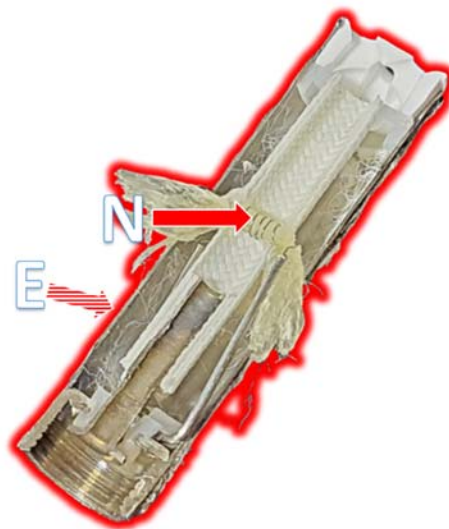
MarkTen XL Figure 1.h.

81. The MarkTen XL's "solution holding medium [L] surrounds the airflow passageway [J] in the interior of the housing [E] and intermediate of the first end [F] and the second end [G]."



MarkTen XL Figure 1.i.

82. The MarkTen XL's housing "includes a heating element [N] located in the interior of the housing [E]."



MarkTen XL Figure 1.j.

83. The MarkTen XL's "heating element [N] is electrically configured to vaporize at least a portion of the solution for oral provision to an individual in the airflow from the second aperture [I] responsive to electrical power received from the battery [B] through the electrically conductive threaded portions of the cartridge [K] and power source [C]."



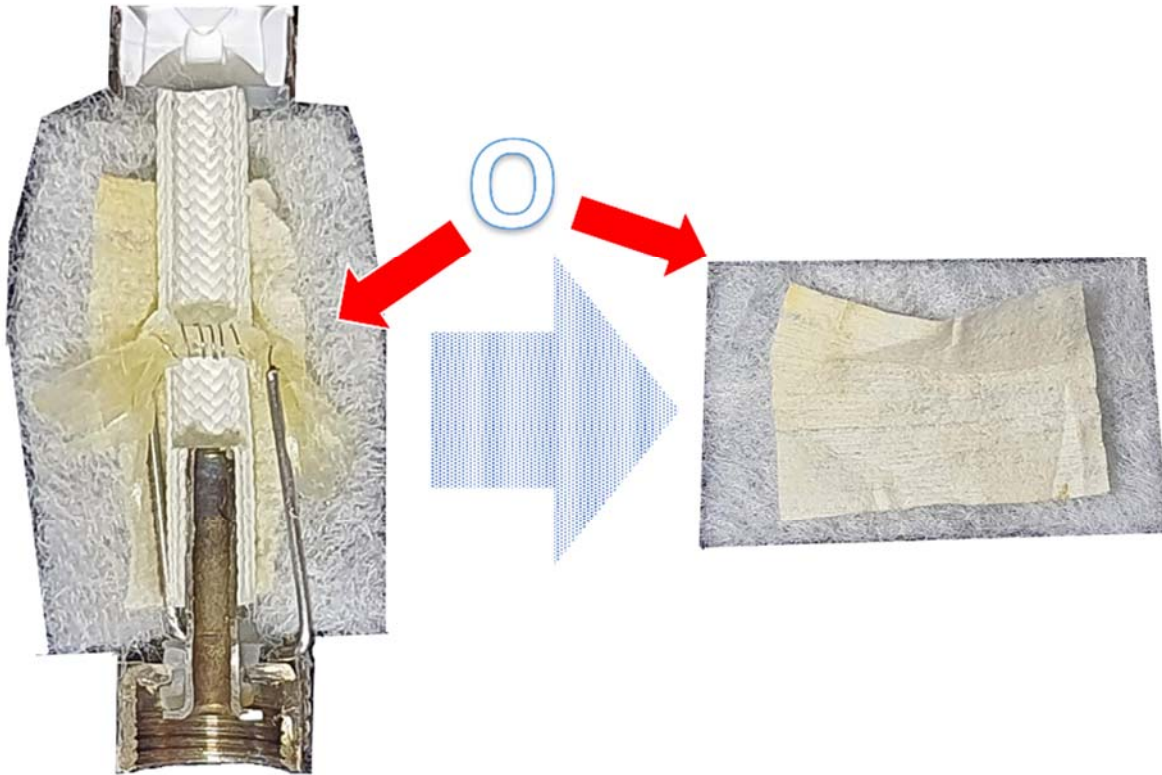
MarkTen XL Figure 1.k.

84. Claim 2 of the '604 Patent reads as follows:

2. The apparatus according to claim 1, wherein the solution holding medium includes at least one of an absorbent material, a chamber, a reservoir, a capsule, or any combination thereof.

85. As shown in the figures set forth in the following paragraph, the MarkTen XL meets every limitation recited in Claim 2 of the '604 Patent.

86. The MarkTen XL's "solution holding medium [L] includes at least one of an absorbent material [O], a chamber, a reservoir, a capsule, or any combination thereof."



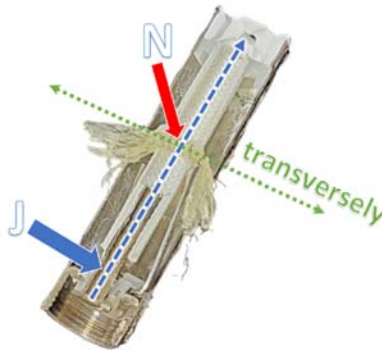
MarkTen XL Figure 2.

87. Claim 4 of the '604 Patent reads as follows:

4. The apparatus according to claim 1, wherein the heating element extends transversely across the airflow passageway, whereby airflow through the passageway passes on both transverse sides of the element.

88. As shown in the figures set forth in paragraphs 89 through 90, the MarkTen XL meets every limitation recited in Claim 4 of the '604 Patent.

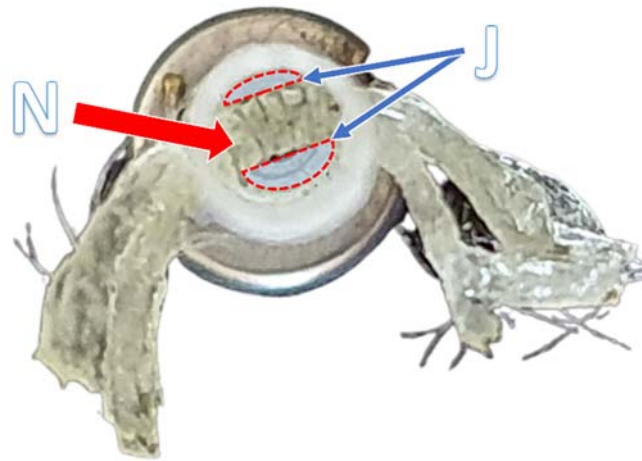
89. The MarkTen XL's "heating element [N] extends transversely across the airflow passageway [J]."



MarkTen XL Figure 4.a.

90. In the MarkTen XL, "airflow through the passageway [J] passes on both transverse sides of the element [N]."

Top-down view of heating element



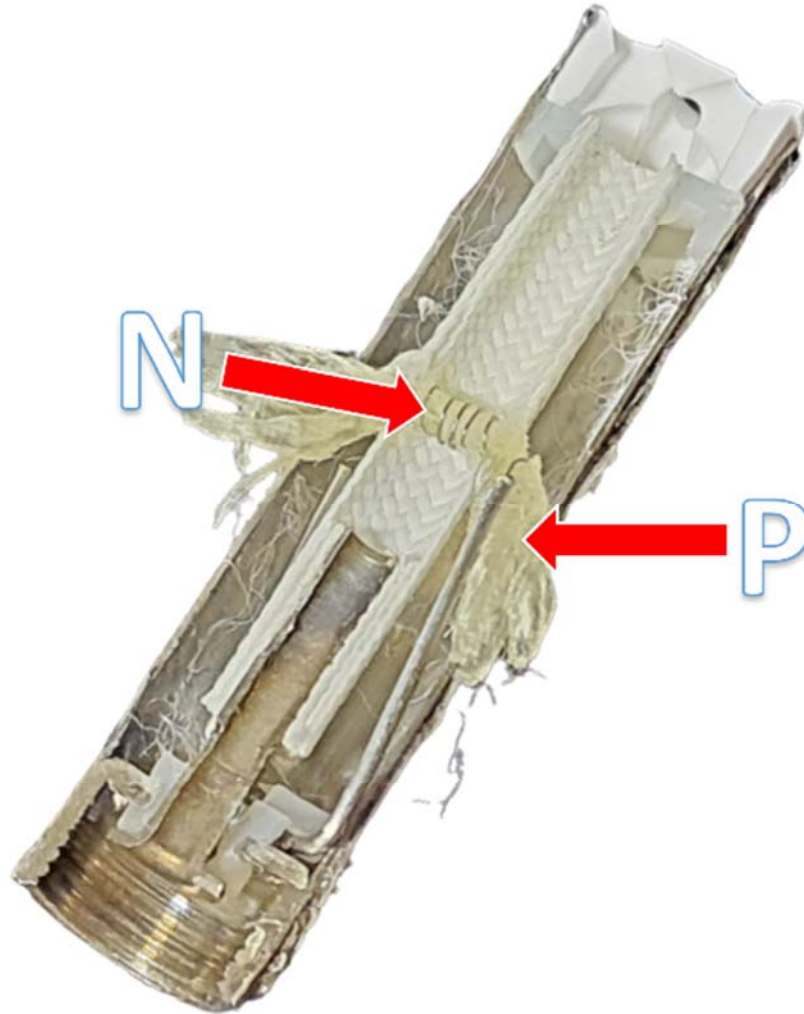
MarkTen XL Figure 4.b.

91. Claim 6 of the '604 Patent reads as follows:

6. The apparatus according to claim 2, wherein the heating element comprises a wicking material to attract the solution from the solution holding medium to the heating element.

92. As shown in the figures set forth in the following paragraph, the MarkTen XL meets every limitation recited in Claim 6 of the '604 Patent.

93. The MarkTen XL's "heating element [N] comprises a wicking material [P] to attract the solution from the solution holding medium to the heating element [N]."



MarkTen XL Figure 6.

94. Claim 12 of the '604 Patent reads as follows:

12. An apparatus comprising:
electronic cigarette cartridge, wherein the electronic cigarette cartridge includes a housing,
wherein the housing is constructed of a non-metallic material, wherein the housing includes:
an interior;
a first end;
a second end that is opposite the first end;
a heating element located in the interior of the housing;
an airflow passageway that extends intermediate of the first end and the second end axially through the interior of the housing along a central longitudinal axis of the housing, wherein the airflow passageway enables airflow from the first end to the second end;
a solution holding medium located in the interior of the housing, wherein the medium extends in surrounding relation of the heating element and the airflow passageway, wherein the medium includes a liquid solution, wherein the medium includes at least one of an absorbent material, a chamber, a reservoir, a capsule, or any combination thereof,
wherein the first end of the housing includes an electrically conductive threaded portion that is configured to mechanically and electrically couple to a further electrically conductive threaded portion in operative connection with a power source, wherein the heating element is configured to vaporize at least a portion of the solution for oral delivery from the second end of the housing upon receiving current from the power source through the electrically conductive threaded portion of the cartridge.

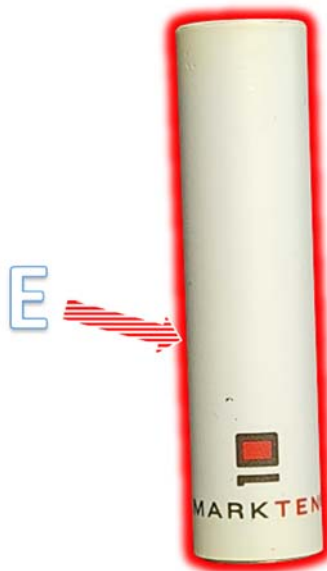
95. As shown in the figures set forth in paragraphs 96 through 107, the MarkTen XL meets every limitation recited in Claim 12 of the '604 Patent.

96. The MarkTen XL has an “electronic cigarette cartridge [D], wherein the electronic cigarette cartridge [D] includes a housing [E].”



MarkTen XL Figure 12.a.

97. The MarkTen XL’s “housing [E] is constructed of a non-metallic material.” The MarkTen XL has a polymer label and endcap.



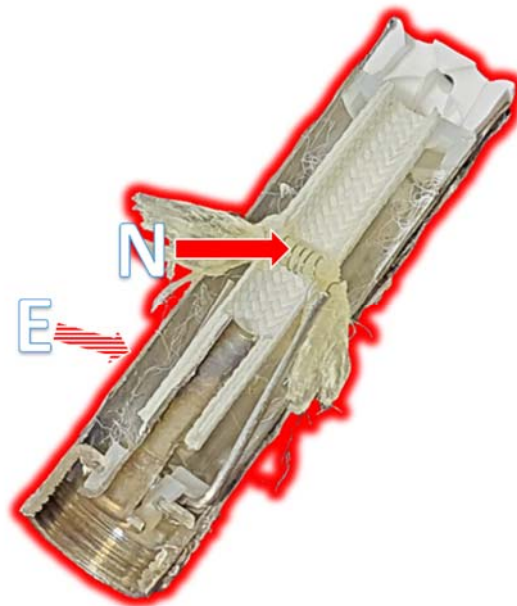
MarkTen XL Figure 12.b.

98. The MarkTen XL's "housing [E] includes: an interior; a first end [F]; a second end [G] that is opposite the first end [F]."



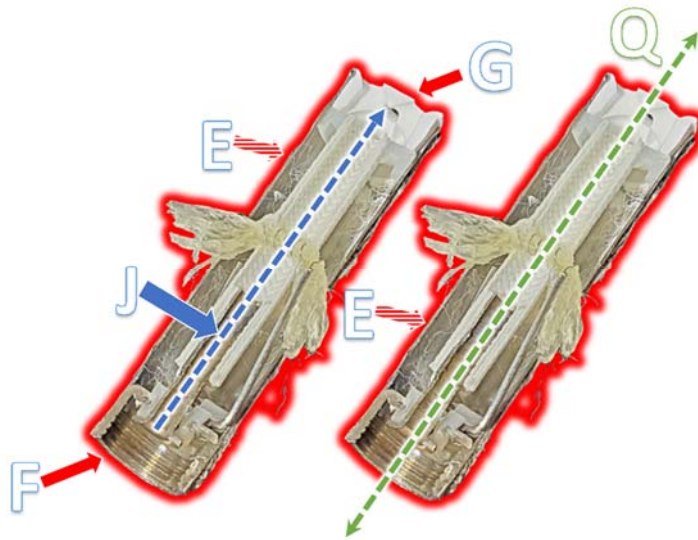
MarkTen XL Figure 12.c.

99. The MarkTen XL has "a heating element [N] located in the interior of the housing [E]."



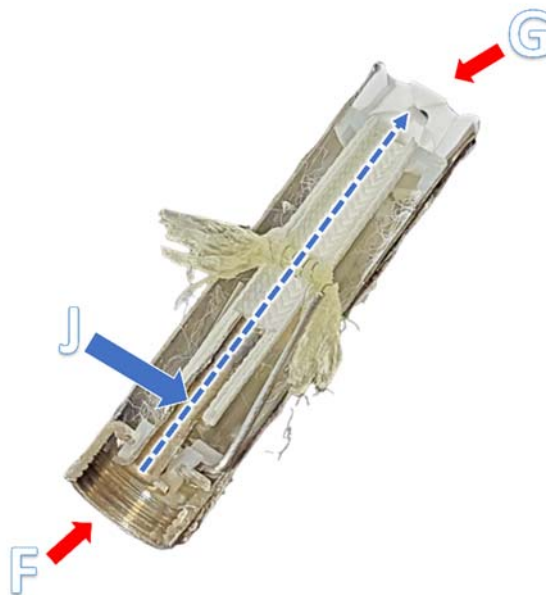
MarkTen XL Figure 12.d.

100. The MarkTen XL has “an airflow passageway [J] that extends intermediate of the first end [F] and the second end [G] axially through the interior of the housing [E] along a central longitudinal axis [Q] of the housing [E].”



MarkTen XL Figure 12.e.

101. The MarkTen XL’s “airflow passageway [J] enables airflow from the first end [F] to the second end [G].”



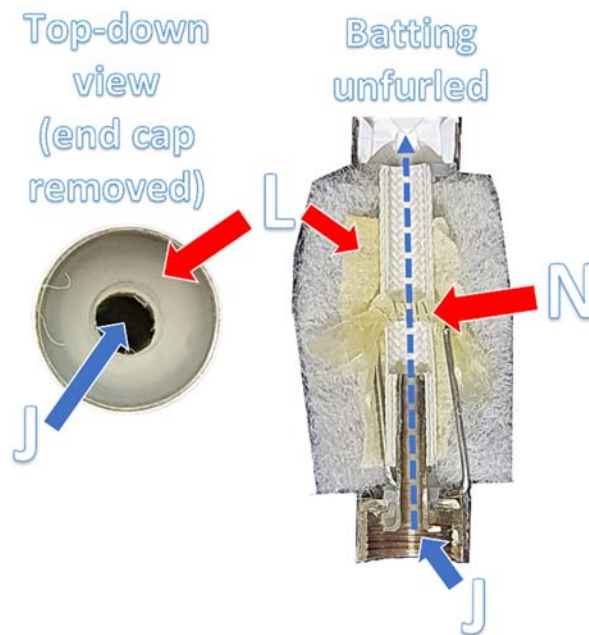
MarkTen XL Figure 12.f.

102. The MarkTen XL has “a solution holding medium [L] located in the interior of the housing [E].”



MarkTen XL Figure 12.g.

103. The MarkTen XL’s solution holding “medium [L] extends in surrounding relation of the heating element [N] and the airflow passageway [J].”



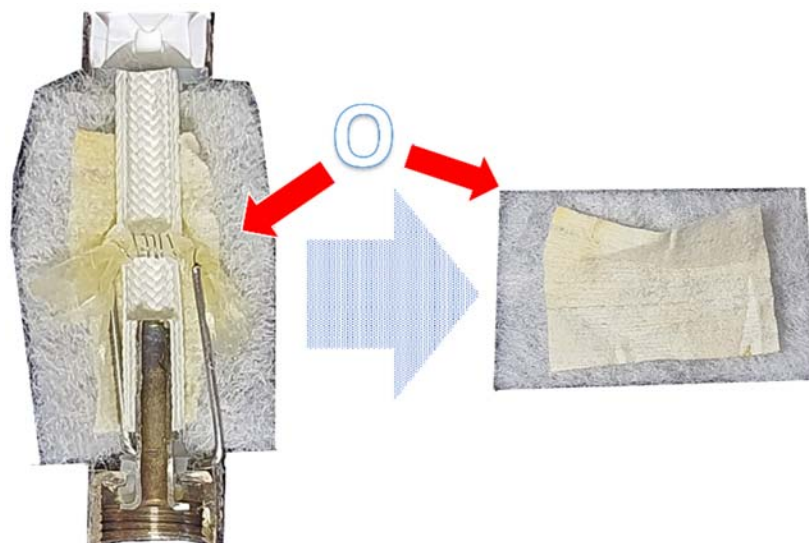
MarkTen XL Figure 12.h.

104. The MarkTen XL's solution holding "medium [L] includes a liquid solution [R]."



MarkTen XL Figure 12.i.

105. The MarkTen XL's solution holding "medium includes at least one of an absorbent material [O], a chamber, a reservoir, a capsule, or any combination thereof."



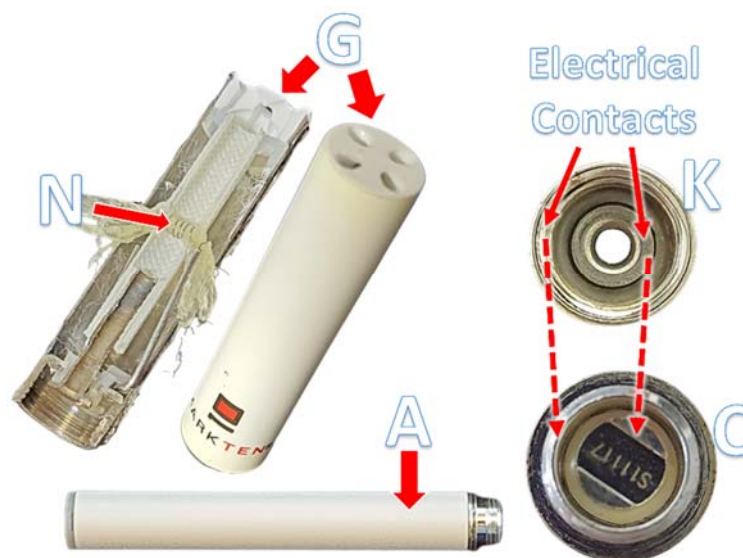
MarkTen XL Figure 12.j.

106. The MarkTen XL's "first end [F] of the housing [E] includes an electrically conductive threaded portion [K] that is configured to mechanically and electrically couple to a further electrically conductive threaded portion [C] in operative connection with a power source [A]."



MarkTen XL Figure 12.k.

107. The MarkTen XL's "heating element [N] is configured to vaporize at least a portion of the solution for oral delivery from the second end [G] of the housing upon receiving current from the power source [A] through the electrically conductive threaded portion of the cartridge [K]."



MarkTen XL Figure 12.l.

108. Claim 13 of the '604 Patent reads as follows:

13. The apparatus according to claim **12**, wherein the solution comprises propylene glycol.

109. As shown in the figure set forth in the following paragraph, the MarkTen XL meets every limitation recited in Claim 13 of the '604 Patent.

110. The MarkTen XL's "solution [M] comprises propylene glycol."



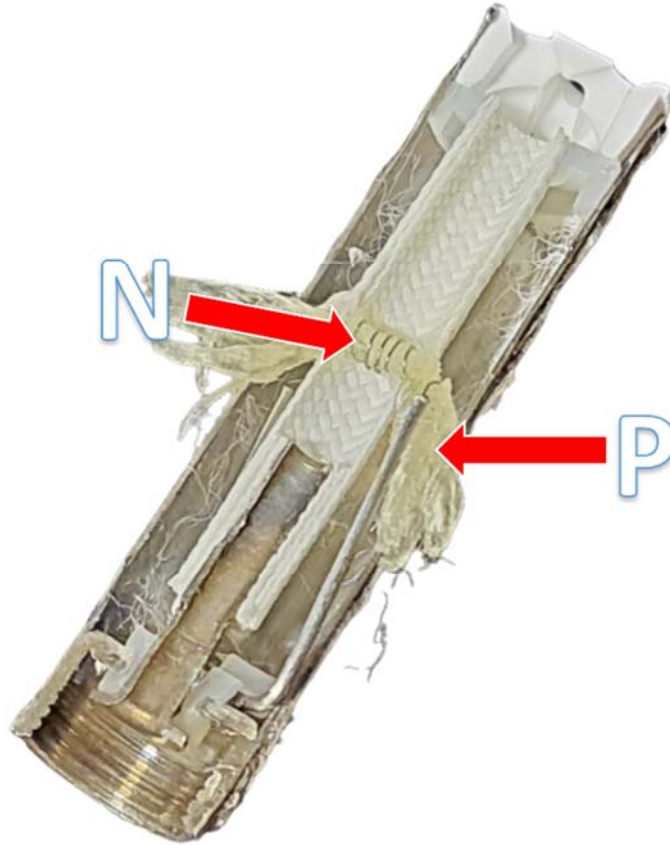
MarkTen XL Figure 13.

111. Claim 14 of the '604 Patent reads as follows:

14. The apparatus according to claim **12**, wherein the heating element comprises a wicking material that is configured to attract the solution from the solution holding medium.

112. As shown in the figure set forth in the following paragraph, the MarkTen XL meets every limitation recited in Claim 14 of the '604 Patent.

113. The MarkTen XL's "heating element [N] comprises a wicking material [P] that is configured to attract the solution from the solution holding medium."



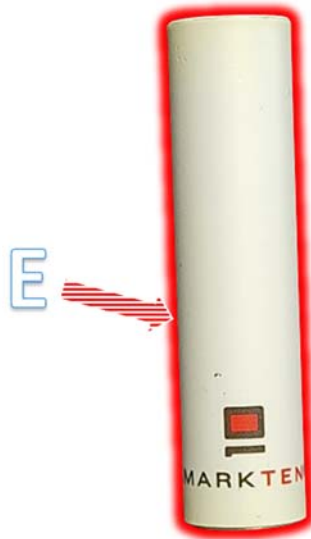
MarkTen XL Figure 14.

114. Claim 15 of the '604 Patent reads as follows:

15. The apparatus according to claim **12**, wherein the non-metallic material is one of a polymer or a ceramic.

115. As shown in the figure set forth in the following paragraph, the MarkTen XL meets every limitation recited in Claim 15 of the '604 Patent.

116. The MarkTen XL's housing [E] is constructed of a non-metallic material "wherein the non-metallic material is one of a polymer or a ceramic." The MarkTen XL has a polymer label and endcap.



MarkTen XL Figure 15.

117. Claim 18 of the '604 Patent reads as follows:

18. The apparatus according to claim **12**, further comprising the power source.

118. As shown in the figure set forth in the following paragraph, the MarkTen XL meets every limitation recited in Claim 18 of the '604 Patent.

119. The MarkTen XL further comprises "the power source [A]."

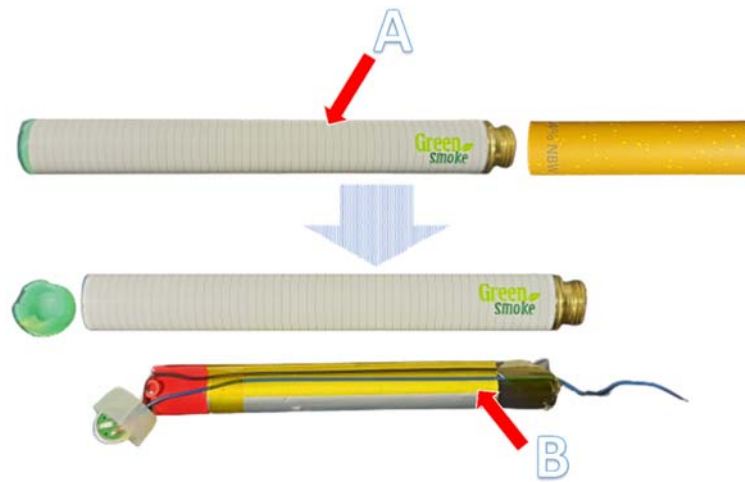


MarkTen XL Figure 18.

Direct Infringement: Altria Green Smoke

120. As shown in the figures set forth in paragraphs 121 through 131, the Green Smoke meets every limitation recited in Claim 1 of the '604 Patent.

121. The Green Smoke includes “a power source [A], wherein the power source [A] includes a battery [B]” as recited in Claim 1 of the '604 Patent.



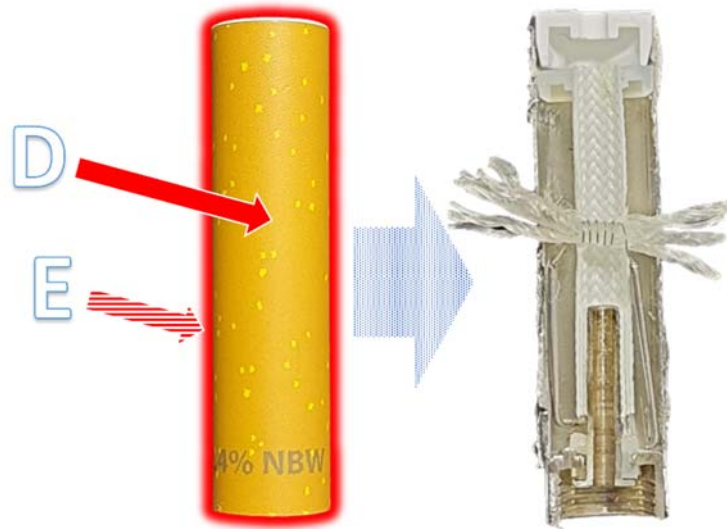
Green Smoke Figure 1.a.

122. The Green Smoke’s power source “includes an electrically conductive threaded portion [C].”



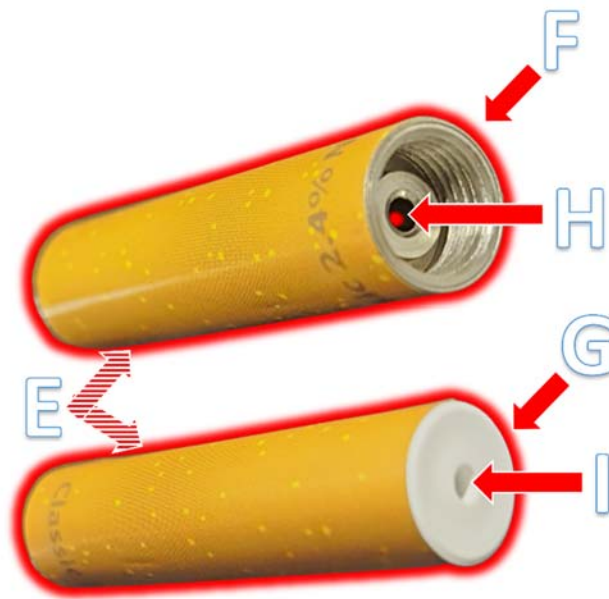
Green Smoke Figure 1.b.

123. The Green Smoke includes “a cartridge [D] having a housing [E] that comprises an interior.”



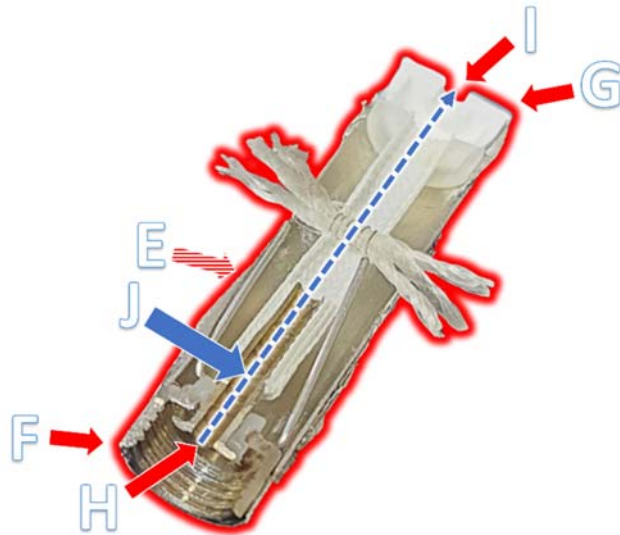
Green Smoke Figure 1.c.

124. The Green Smoke’s housing “includes a first end [F] and a second end [G] that is opposite the first end [F], wherein the housing [E] includes a first aperture [H] on the first end [F] and a second aperture [I] on the second end [G].”



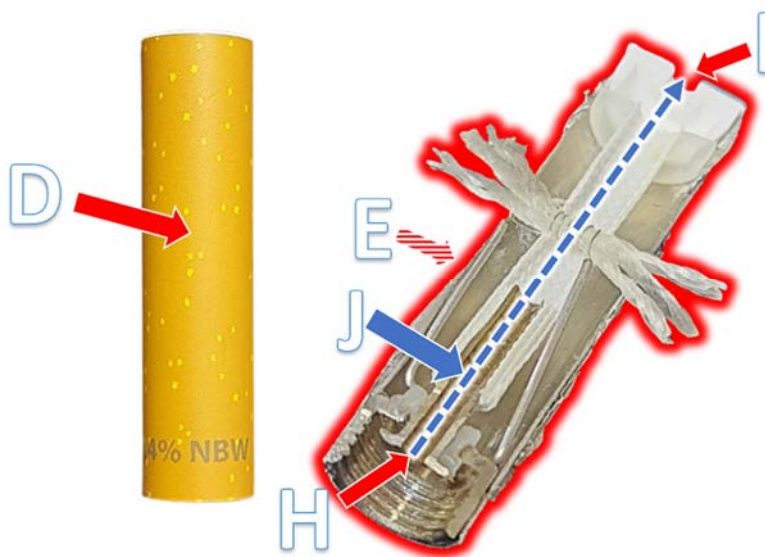
Green Smoke Figure 1.d.

125. The Green Smoke's housing "includes an airflow passageway [J] that extends centrally and axially with respect to the housing [E] intermediate of the first aperture [H] on the first end [F] of the housing and the second aperture [I] on the second end [G] of the housing."



Green Smoke Figure 1.e.

126. The Green Smoke's "airflow passageway [J] is configured to allow art [sic] airflow through the cartridge [D] from the first aperture [H] to the second aperture [I] of the housing [E]."



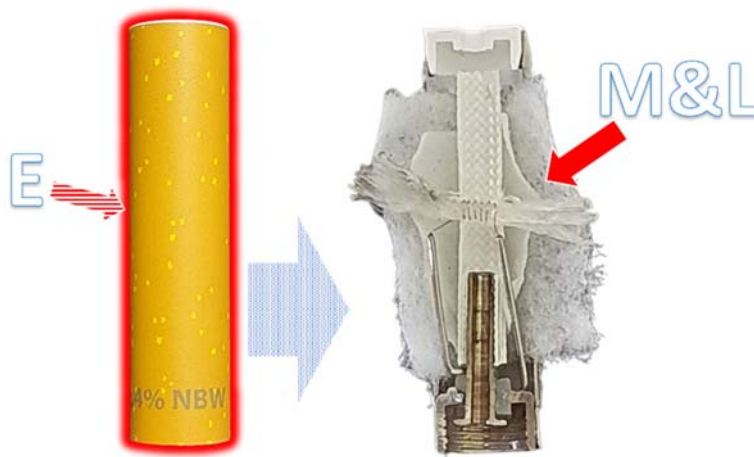
Green Smoke Figure 1.f.

127. The Green Smoke has a housing “wherein the first end [F] of the housing [E] includes an electrically conductive threaded portion [K] that is adapted to mechanically and electrically couple to the electrically conductive threaded portion of the power source [C].”



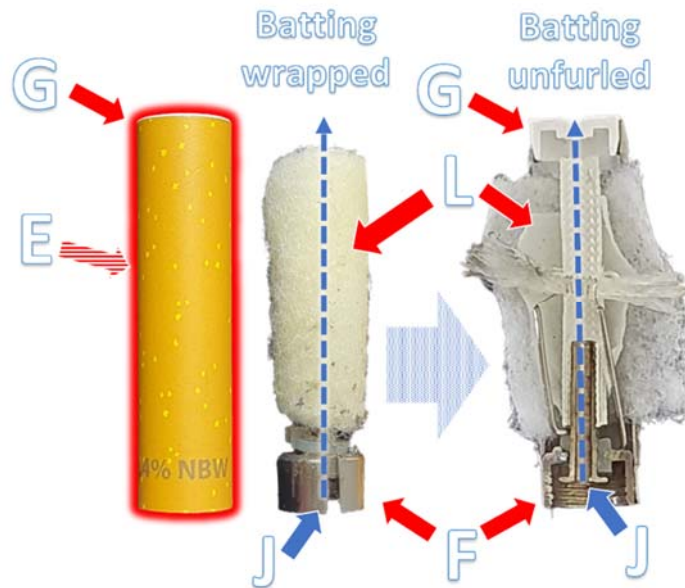
Green Smoke Figure 1.g.

128. The Green Smoke’s housing “includes a solution holding medium [L] comprising a solution [M] located in the interior of the housing [E].”



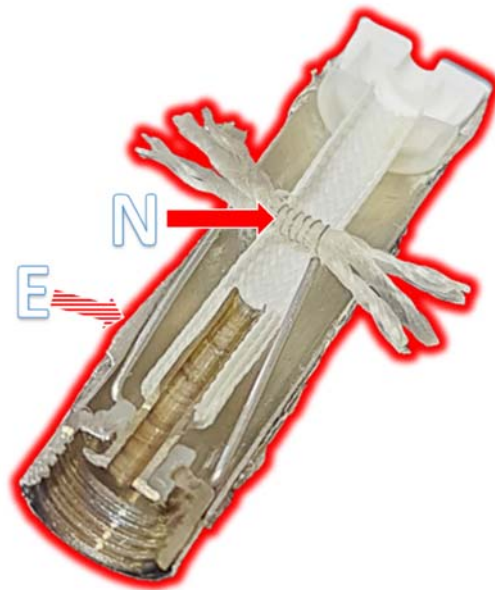
Green Smoke Figure 1.h.

129. The Green Smoke's "solution holding medium [L] surrounds the airflow passageway [J] in the interior of the housing [E] and intermediate of the first end [F] and the second end [G]."



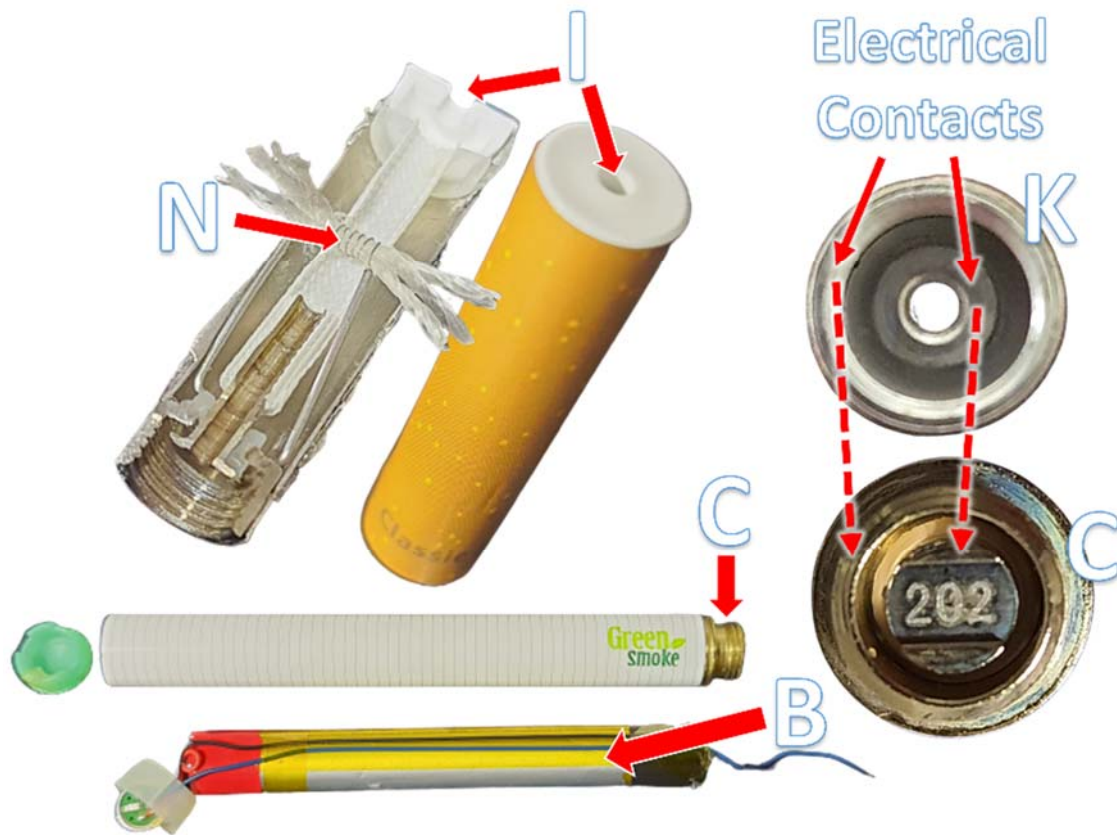
Green Smoke Figure 1.i.

130. The Green Smoke's housing "includes a heating element [N] located in the interior of the housing [E]."



Green Smoke Figure 1.j.

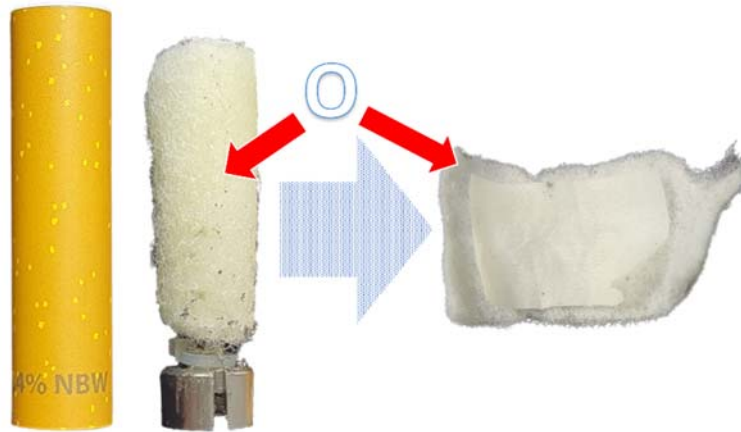
131. The Green Smoke's "heating element [N] is electrically configured to vaporize at least a portion of the solution for oral provision to an individual in the airflow from the second aperture [I] responsive to electrical power received from the battery [B] through the electrically conductive threaded portions of the cartridge [K] and power source [C]."



Green Smoke Figure 1.k.

132. As shown in the figure set forth in the following paragraph, the Green Smoke meets every limitation recited in Claim 2 of the '604 Patent.

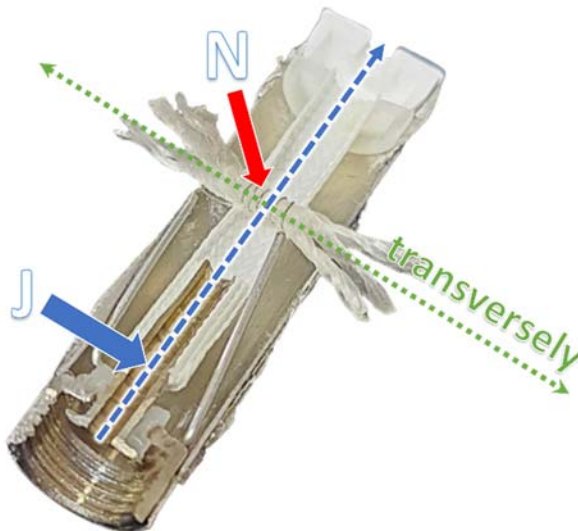
133. The Green Smoke's "solution holding medium [L] includes at least one of an absorbent material [O], a chamber, a reservoir, a capsule, or any combination thereof."



Green Smoke Figure 2.

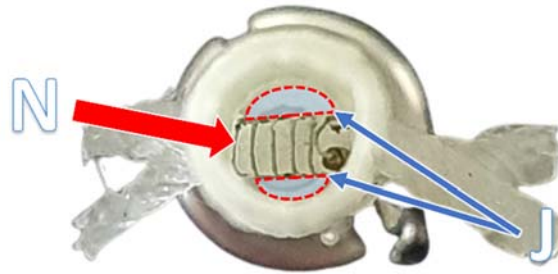
134. As shown in the figures set forth in paragraphs 135 through 136, the Green Smoke meets every limitation recited in Claim 4 of the '604 Patent.

135. The Green Smoke's "heating element [N] extends transversely across the airflow passageway [J]."



Green Smoke Figure 4.a.

136. In the Green Smoke, “airflow through the passageway [J] passes on both transverse sides of the element [N].”



Top-down view of heating element

Green Smoke Figure 4.b.

137. As shown in the figure set forth in the following paragraph, the Green Smoke meets every limitation recited in Claim 6 of the '604 Patent.

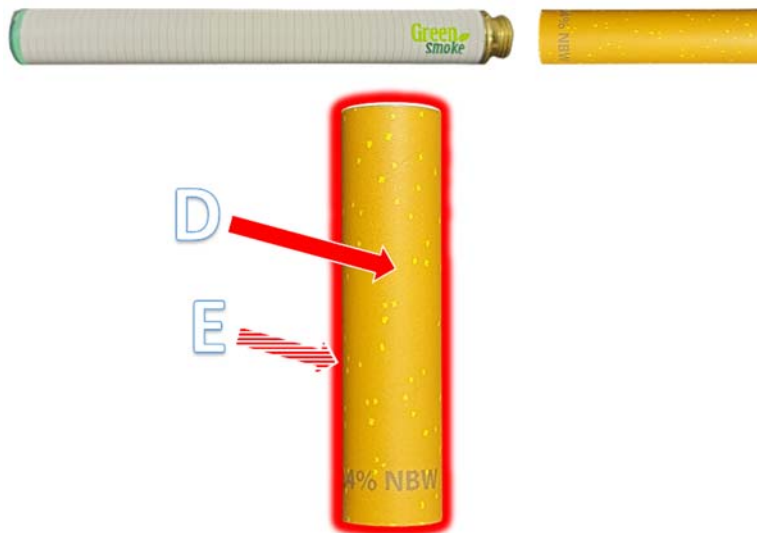
138. The Green Smoke’s “heating element [N] comprises a wicking material [P] to attract the solution from the solution holding medium to the heating element [N].”



Green Smoke Figure 6.

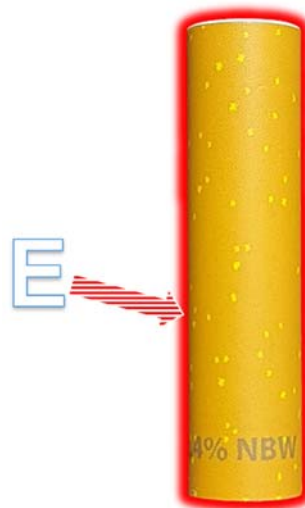
139. As shown in the figures set forth in paragraphs 140 through 151, the Green Smoke meets every limitation recited in Claim 12 of the '604 Patent.

140. The Green Smoke has an “electronic cigarette cartridge [D], wherein the electronic cigarette cartridge [D] includes a housing [E].”



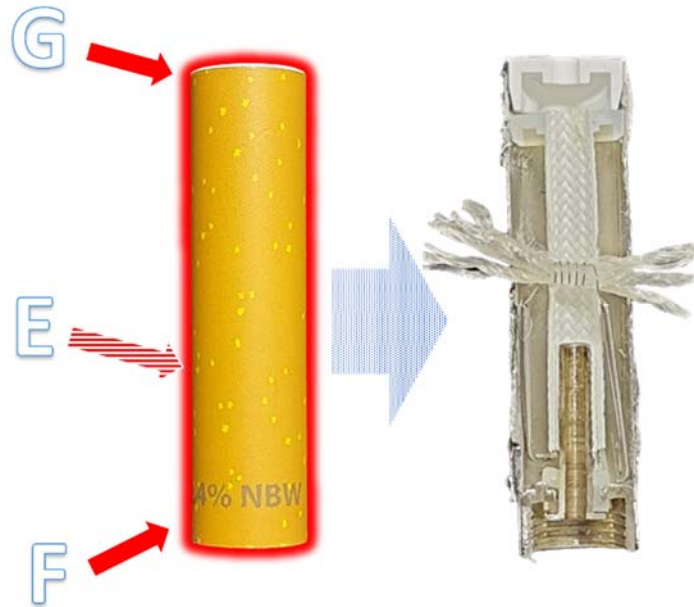
Green Smoke Figure 12.a.

141. The Green Smoke’s “housing [E] is constructed of a non-metallic material.” The Green Smoke has a polymer label and endcap.



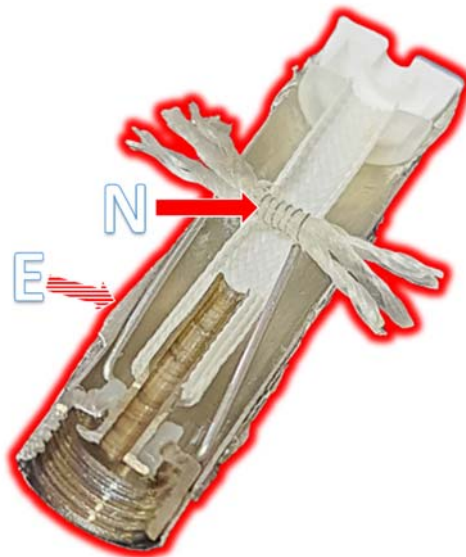
Green Smoke Figure 12.b.

142. The Green Smoke's "housing [E] includes: an interior; a first end [F]; a second end [G] that is opposite the first end [F]."



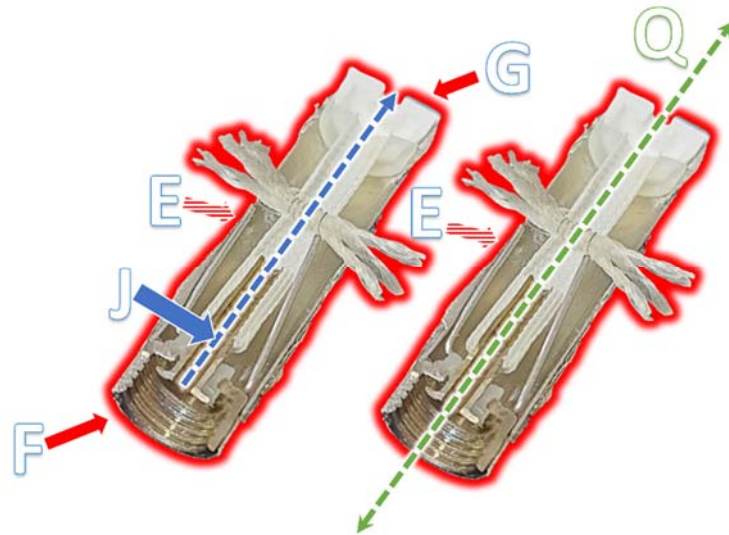
Green Smoke Figure 12.c.

143. The Green Smoke has "a heating element [N] located in the interior of the housing [E]."



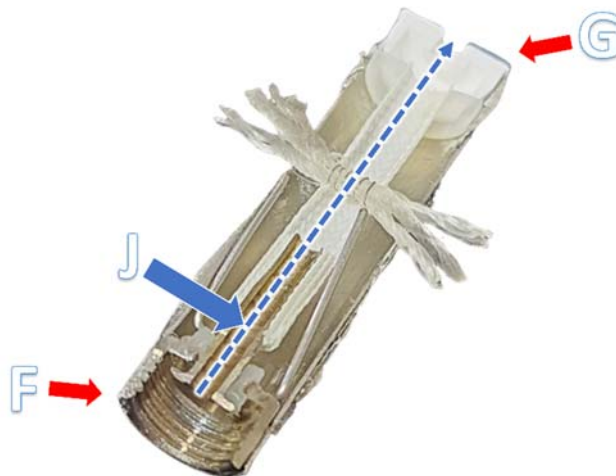
Green Smoke Figure 12.d.

144. The Green Smoke has “an airflow passageway [J] that extends intermediate of the first end [F] and the second end [G] axially through the interior of the housing [E] along a central longitudinal axis [Q] of the housing [E].”



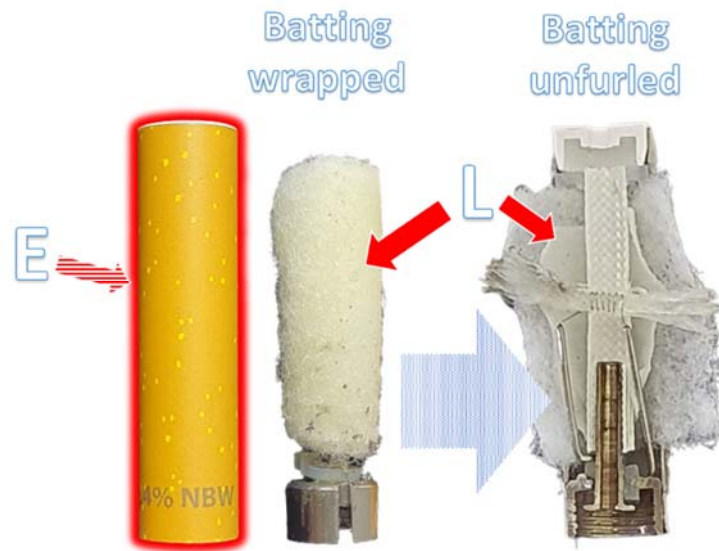
Green Smoke Figure 12.e.

145. The Green Smoke’s “airflow passageway [J] enables airflow from the first end [F] to the second end [G].”



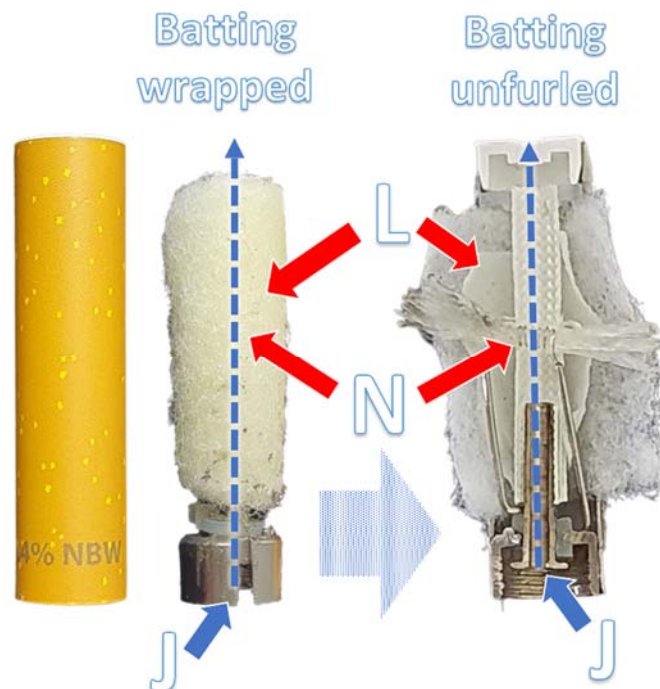
Green Smoke Figure 12.f.

146. The Green Smoke has “a solution holding medium [L] located in the interior of the housing [E].”



Green Smoke Figure 12.g.

147. The Green Smoke’s solution holding “medium [L] extends in surrounding relation of the heating element [N] and the airflow passageway [J].”



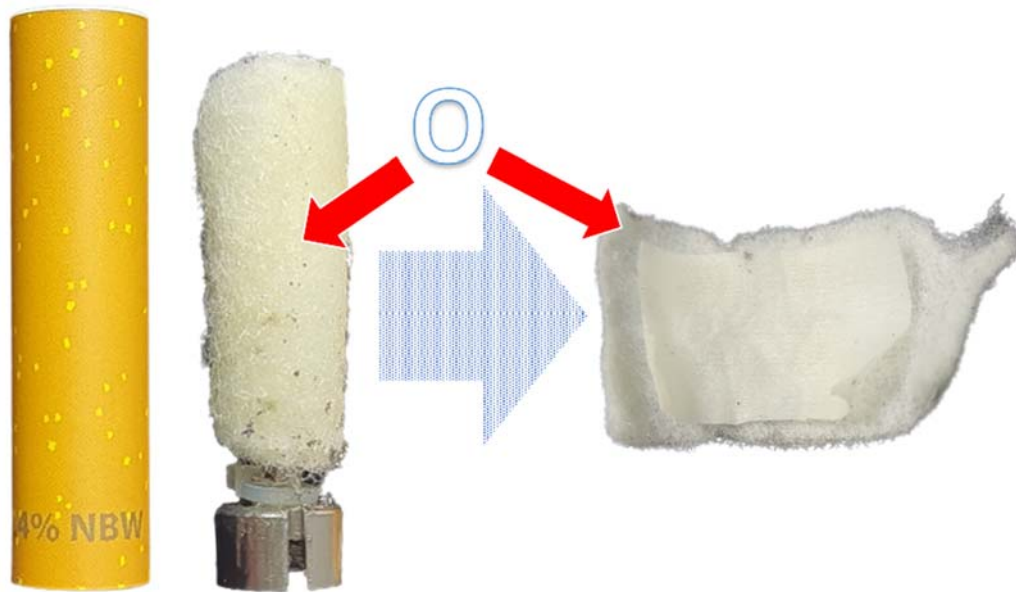
Green Smoke Figure 12.h.

148. The Green Smoke's solution holding "medium [L] includes a liquid solution [R]."



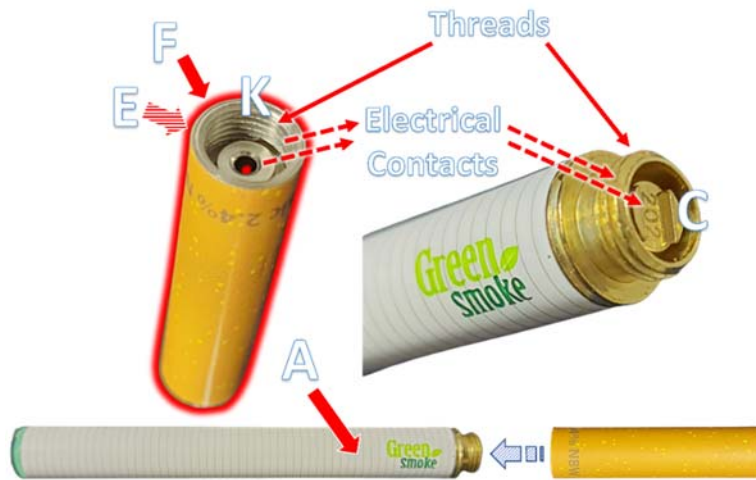
Green Smoke Figure 12.i.

149. The Green Smoke's solution holding "medium includes at least one of an absorbent material [O], a chamber, a reservoir, a capsule, or any combination thereof."



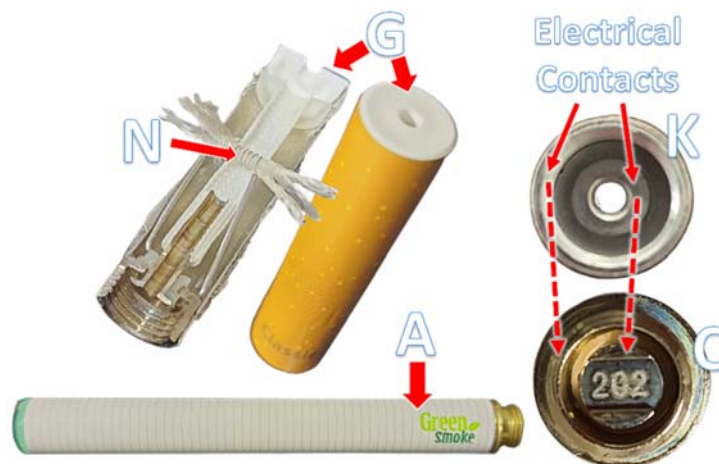
Green Smoke Figure 12.j.

150. The Green Smoke's "first end [F] of the housing [E] includes an electrically conductive threaded portion [K] that is configured to mechanically and electrically couple to a further electrically conductive threaded portion [C] in operative connection with a power source [A]."



Green Smoke Figure 12.k.

151. The Green Smoke's "heating element [N] is configured to vaporize at least a portion of the solution for oral delivery from the second end [G] of the housing upon receiving current from the power source [A] through the electrically conductive threaded portion of the cartridge [K]."



Green Smoke Figure 12.l.

152. As shown in the figure set forth in the following paragraph, the Green Smoke meets every limitation recited in Claim 13 of the '604 Patent.

153. The Green Smoke's "solution [M] comprises propylene glycol."



Green Smoke Figure 13.

154. As shown in the figure set forth in the following paragraph, the Green Smoke meets every limitation recited in Claim 14 of the '604 Patent.

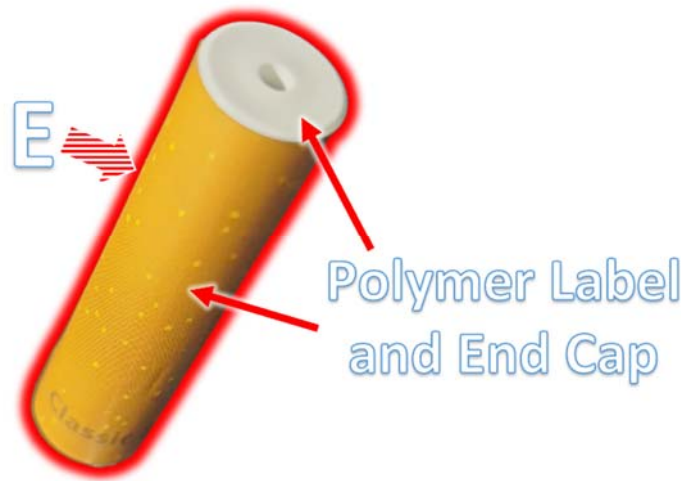
155. The Green Smoke's "heating element [N] comprises a wicking material [P] that is configured to attract the solution from the solution holding medium."



Green Smoke Figure 14.

156. As shown in the figure set forth in the following paragraph, the Green Smoke meets every limitation recited in Claim 15 of the '604 Patent.

157. The Green Smoke's housing [E] is constructed of a non-metallic material "wherein the non-metallic material is one of a polymer or a ceramic." The Green Smoke has a polymer label and endcap.



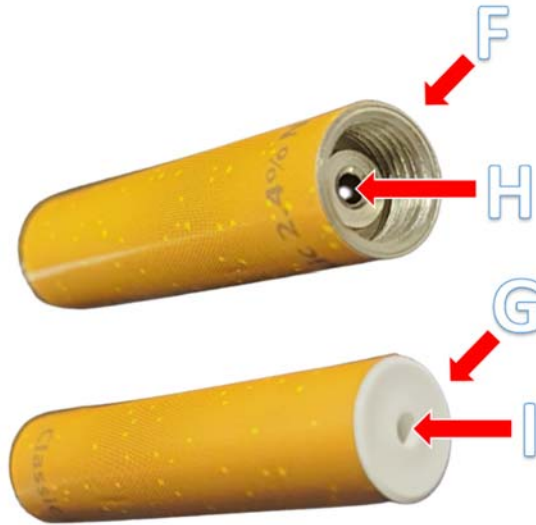
Green Smoke Figure 15.

158. Claim 16 of the '604 Patent reads as follows:

16. The apparatus according to claim **12**, wherein the first end comprises a centrally located first aperture and the second end comprises a centrally located second aperture, wherein the airflow passageway extends between the first aperture and the second aperture axially through the interior of the housing, and wherein at least a portion of the heating element extends in the airflow passageway, and wherein no portion of the solution holding medium intersects the central longitudinal axis.

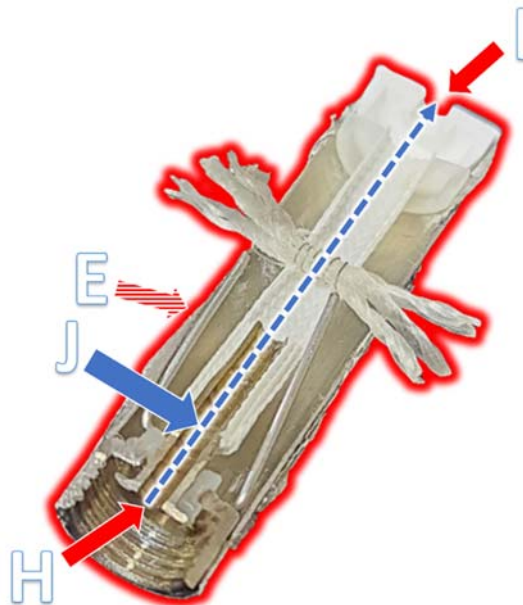
159. As shown in the figures set forth in paragraphs 160 through 163, the Green Smoke meets every limitation recited in Claim 16 of the '604 Patent.

160. The Green Smoke's "first end [F] comprises a centrally located first aperture [H] and the second end [G] comprises a centrally located second aperture [I]."



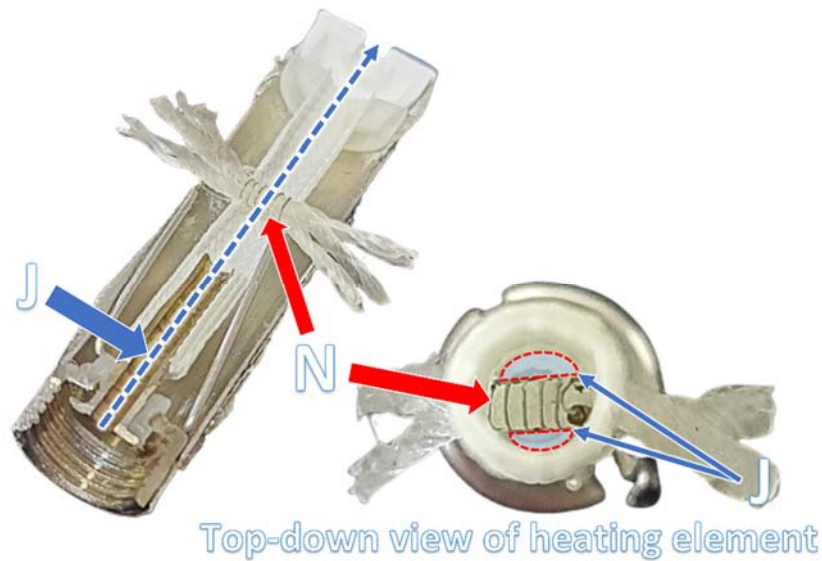
Green Smoke Figure 16.a.

161. The Green Smoke's "airflow passageway [J] extends between the first aperture [H] and the second aperture [I] axially through the interior of the housing [E]."

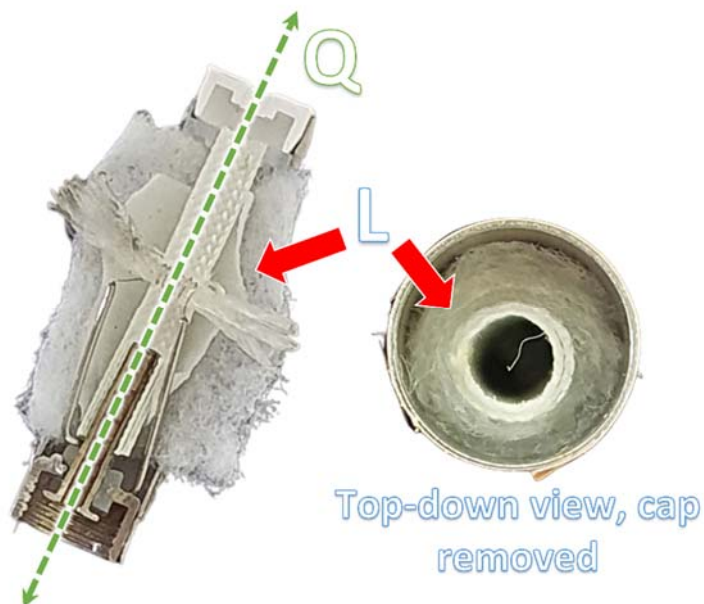


Green Smoke Figure 16.b.

162. In the Green Smoke, “at least a portion of the heating element [N] extends in the airflow passageway [J].”



163. In the Green Smoke, “no portion of the solution holding medium [L] intersects the central longitudinal axis [Q].”



164. As shown in the figure set forth in the following paragraph, the Green Smoke meets every limitation recited in Claim 18 of the '604 Patent.

165. The Green Smoke further comprises “the power source [A].”

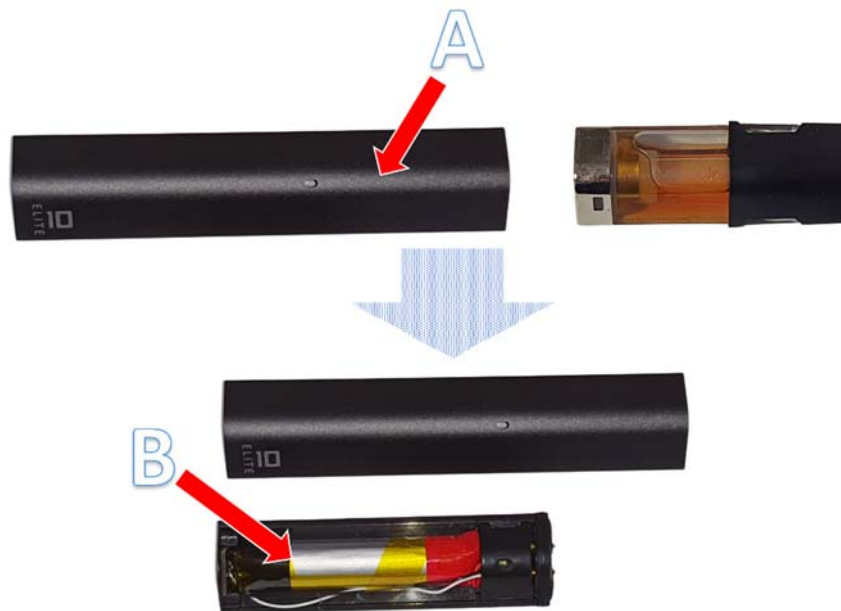


Green Smoke Figure 18.

Direct Infringement: Altria MarkTen Elite

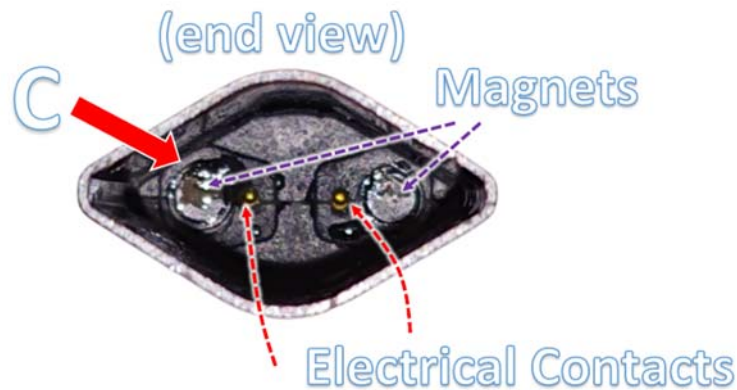
166. As shown in the figures set forth in paragraphs 167 through 177, the MarkTen Elite meets every limitation recited in Claim 1 of the '604 Patent.

167. The MarkTen Elite includes “a power source [A], wherein the power source [A] includes a battery [B]” as recited in Claim 1 of the '604 Patent.



MarkTen Elite Figure 1.a.

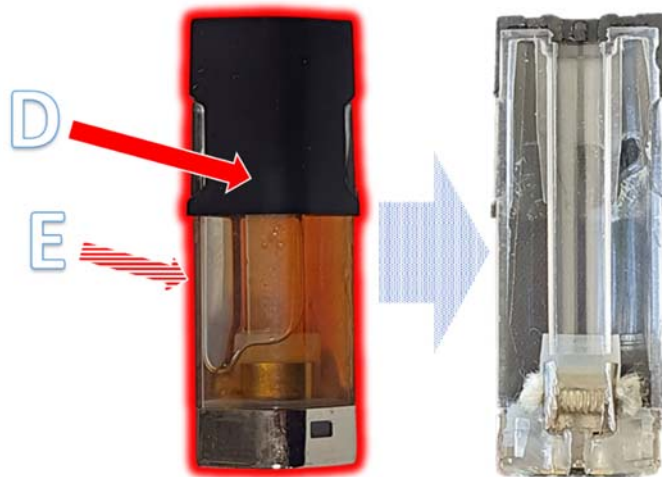
168. The MarkTen Elite's power source "includes an electrically conductive threaded portion [C]."



MarkTen Elite Figure 1.b.

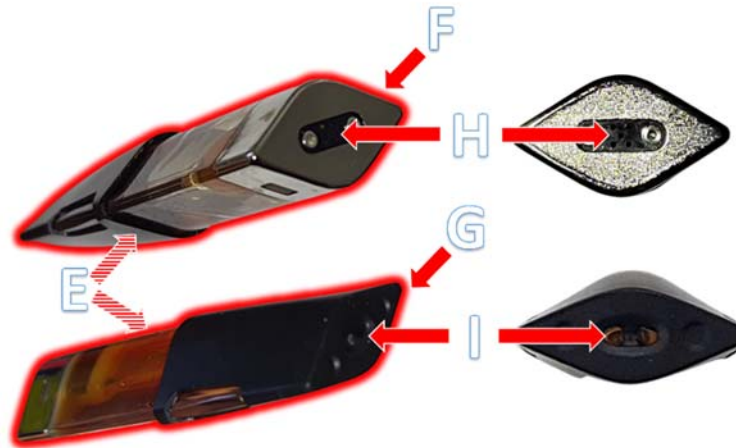
The accused structure depicted as element [C], including the annotated electrical contacts, is insubstantially different from an electrically conductive threaded portion, and performs the same function of operatively connecting the cartridge with the power source in substantially the same way, by mechanically and electrically coupling the cartridge and the power source, and yields the same result: enabling the generation of vapor for the user.

169. The MarkTen Elite includes "a cartridge [D] having a housing [E] that comprises an interior."



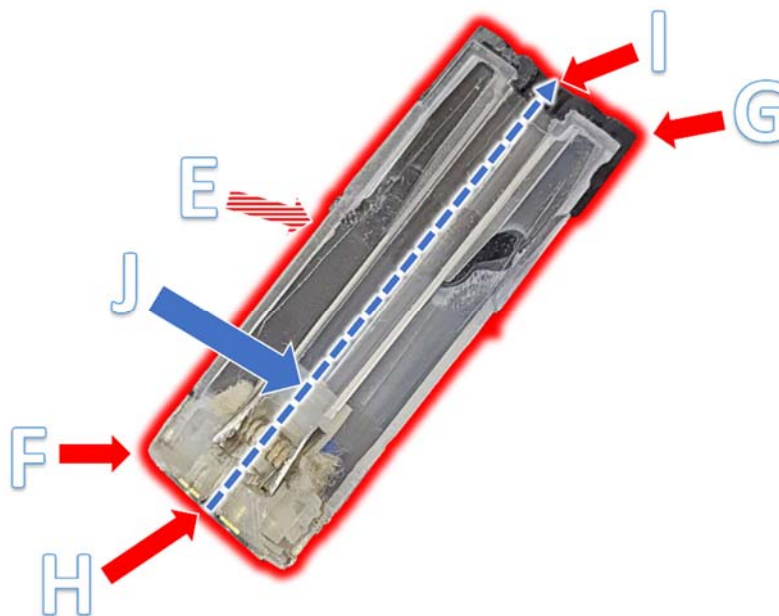
MarkTen Elite Figure 1.c.

170. The MarkTen Elite's housing "includes a first end [F] and a second end [G] that is opposite the first end [F], wherein the housing [E] includes a first aperture [H] on the first end [F] and a second aperture [I] on the second end [G]."



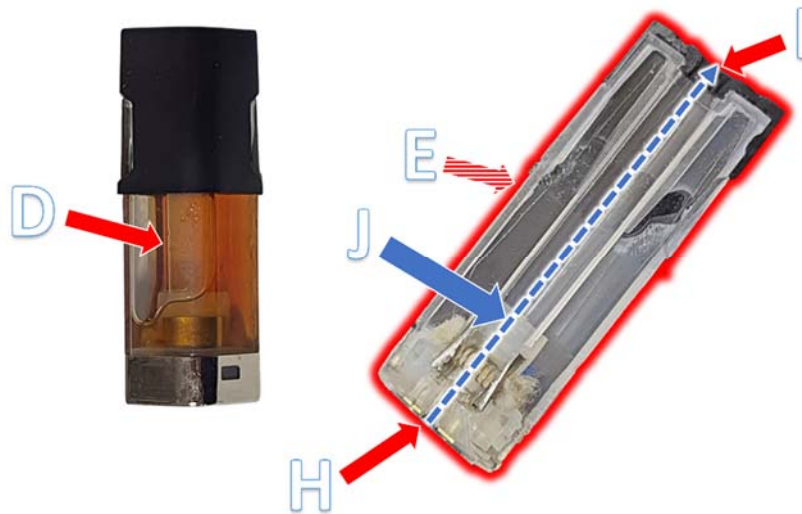
MarkTen Elite Figure 1.d.

171. The MarkTen Elite's housing "includes an airflow passageway [J] that extends centrally and axially with respect to the housing [E] intermediate of the first aperture [H] on the first end [F] of the housing and the second aperture [I] on the second end [G] of the housing."



MarkTen Elite Figure 1.e.

172. The MarkTen Elite's "airflow passageway [J] is configured to allow art [sic] airflow through the cartridge [D] from the first aperture [H] to the second aperture [I] of the housing [E]."



MarkTen Elite Figure 1.f.

173. The MarkTen Elite has a housing "wherein the first end [F] of the housing [E] includes an electrically conductive threaded portion [K] that is adapted to mechanically and electrically couple to the electrically conductive threaded portion of the power source [C]."

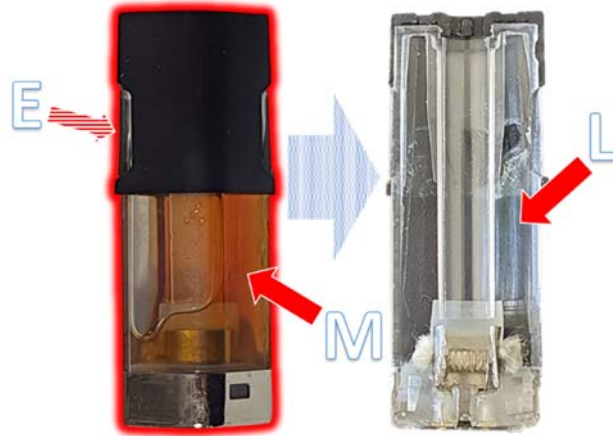


MarkTen Elite Figure 1.g.

The accused structure depicted as element [K], including the annotated electrical contacts, is insubstantially different from an electrically conductive threaded portion, and performs the same

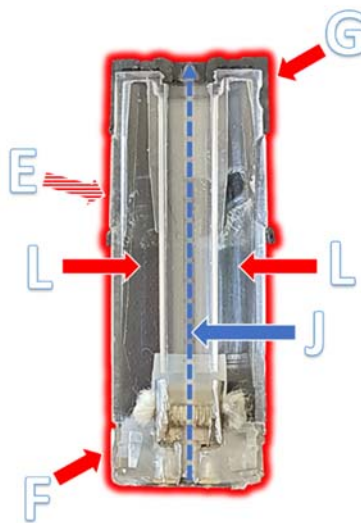
function of operatively connecting the cartridge with the power source in substantially the same way, by mechanically and electrically coupling the cartridge and the power source, and yields the same result: enabling the generation of vapor for the user.

174. The MarkTen Elite's housing "includes a solution holding medium [L] comprising a solution [M] located in the interior of the housing [E]."



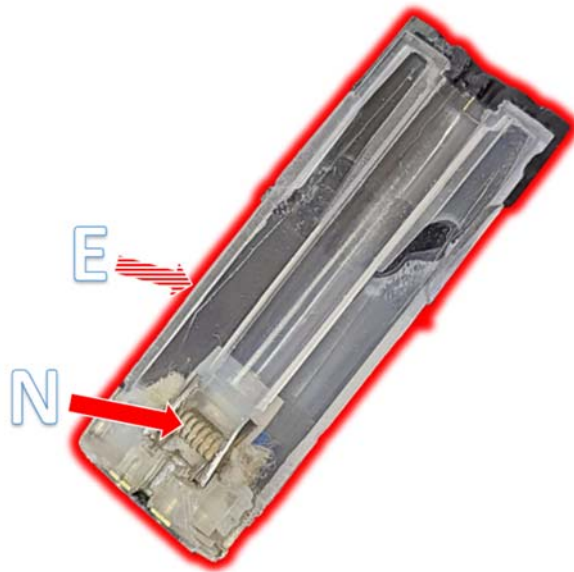
MarkTen Elite Figure 1.h.

175. The MarkTen Elite's "solution holding medium [L] surrounds the airflow passageway [J] in the interior of the housing [E] and intermediate of the first end [F] and the second end [G]."



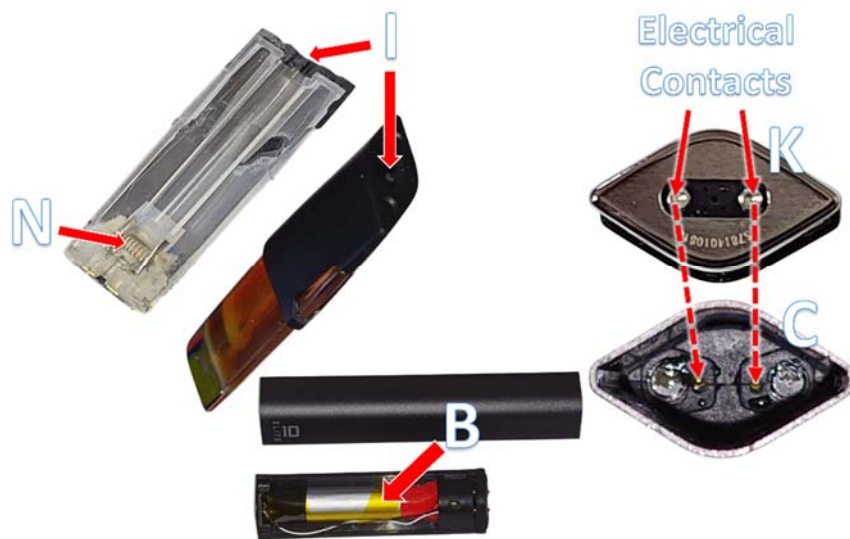
MarkTen Elite Figure 1.i.

176. The MarkTen Elite's housing "includes a heating element [N] located in the interior of the housing [E]."



MarkTen Elite Figure 1.j.

177. The MarkTen Elite's "heating element [N] is electrically configured to vaporize at least a portion of the solution for oral provision to an individual in the airflow from the second aperture [I] responsive to electrical power received from the battery [B] through the electrically conductive threaded portions of the cartridge [K] and power source [C]."



MarkTen Elite Figure 1.k.

178. As shown in the figure set forth in the following paragraph, the MarkTen Elite meets every limitation recited in Claim 2 of the '604 Patent.

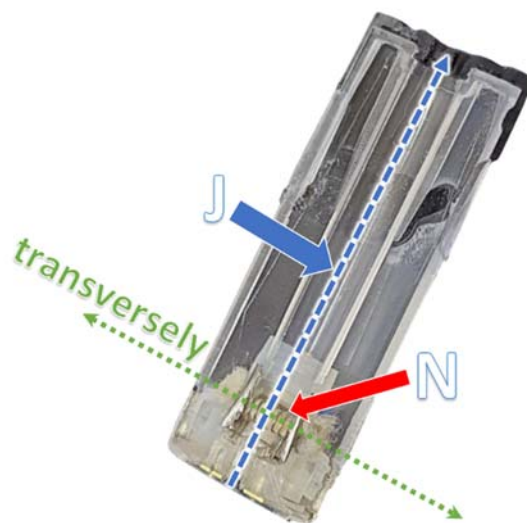
179. The MarkTen Elite's "solution holding medium [L] includes at least one of an absorbent material [O], a chamber, a reservoir, a capsule, or any combination thereof."



MarkTen Elite Figure 2.

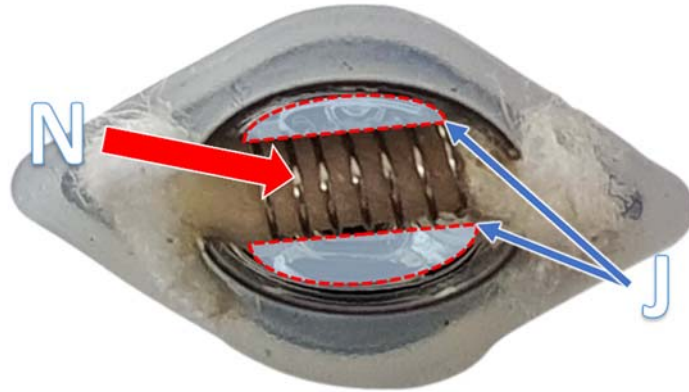
180. As shown in the figures set forth in paragraphs 181 through 182, the MarkTen Elite meets every limitation recited in Claim 4 of the '604 Patent.

181. The MarkTen Elite's "heating element [N] extends transversely across the airflow passageway [J]."



MarkTen Elite Figure 4.a.

182. In the MarkTen Elite, “airflow through the passageway [J] passes on both transverse sides of the element [N].”

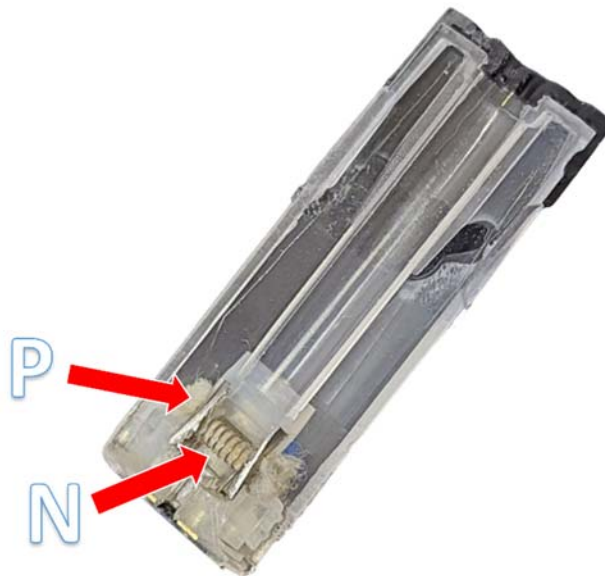


Top-down view of heating element

MarkTen Elite Figure 4.b.

183. As shown in the figure set forth in the following paragraph, the MarkTen Elite meets every limitation recited in Claim 6 of the '604 Patent.

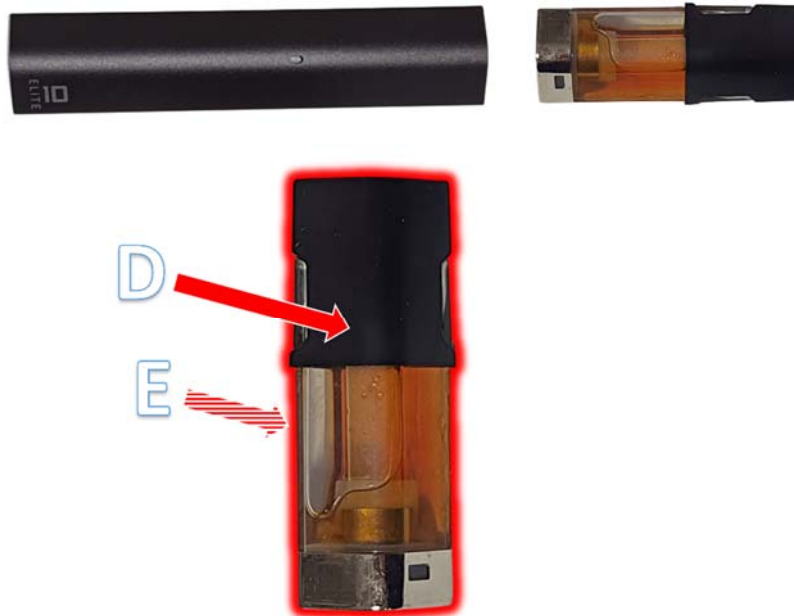
184. The MarkTen Elite’s “heating element [N] comprises a wicking material [P] to attract the solution from the solution holding medium to the heating element [N].”



MarkTen Elite Figure 6.

185. As shown in the figures set forth in paragraphs 186 through 197, the MarkTen Elite meets every limitation recited in Claim 12 of the '604 Patent.

186. The MarkTen Elite has an “electronic cigarette cartridge [D], wherein the electronic cigarette cartridge [D] includes a housing [E].”



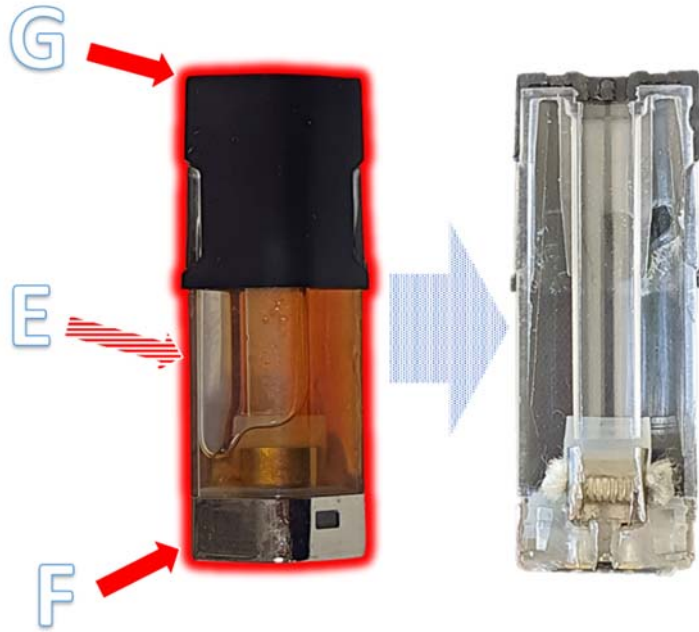
MarkTen Elite Figure 12.a.

187. The MarkTen Elite’s “housing [E] is constructed of a non-metallic material.”



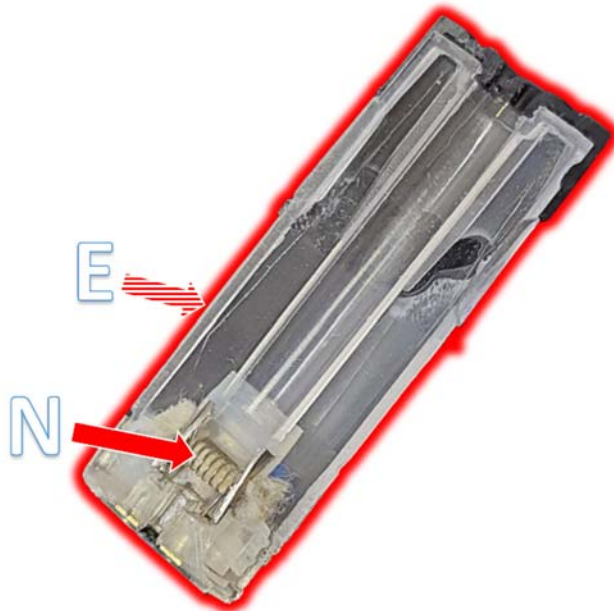
MarkTen Elite Figure 12.b.

188. The MarkTen Elite's "housing [E] includes: an interior; a first end [F]; a second end [G] that is opposite the first end [F]."



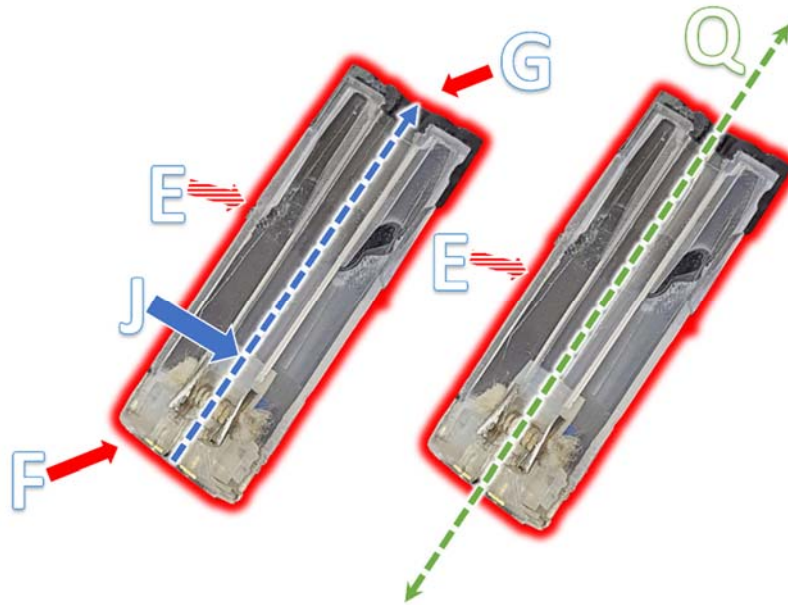
MarkTen Elite Figure 12.c.

189. The MarkTen Elite has "a heating element [N] located in the interior of the housing [E]."



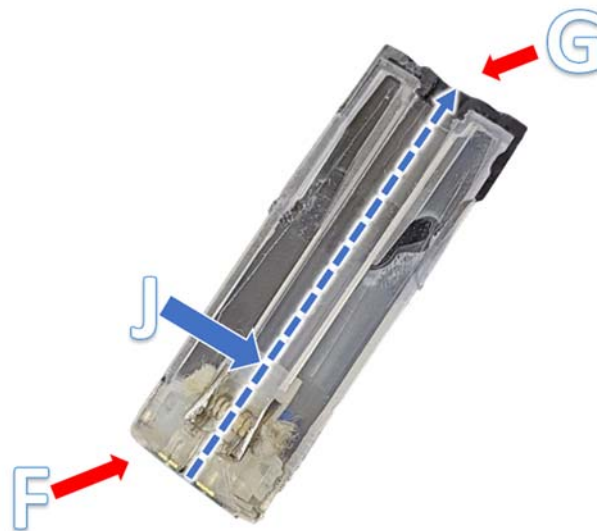
MarkTen Elite Figure 12.d.

190. The MarkTen Elite has “an airflow passageway [J] that extends intermediate of the first end [F] and the second end [G] axially through the interior of the housing [E] along a central longitudinal axis [Q] of the housing [E].”



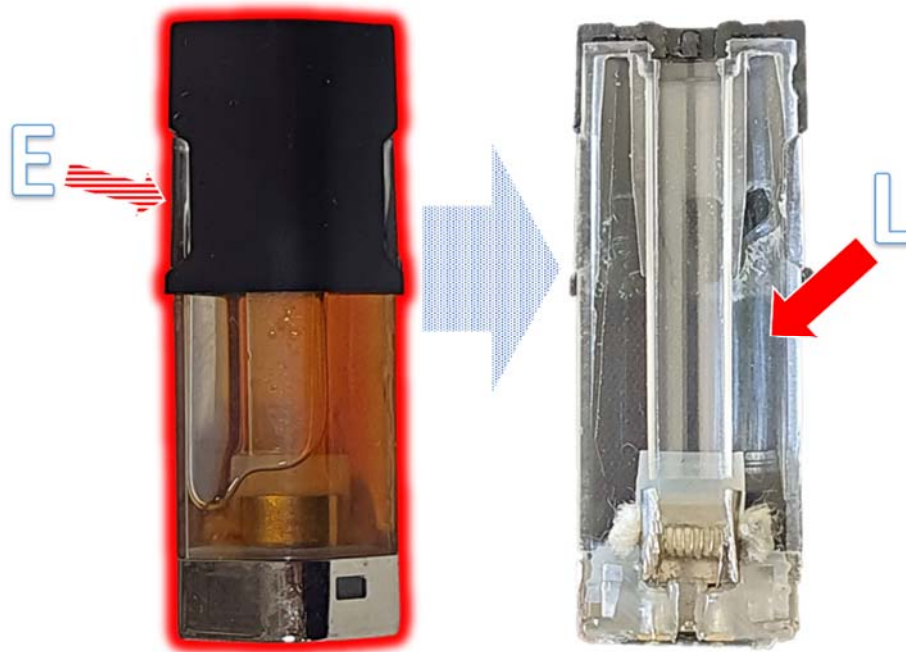
MarkTen Elite Figure 12.e.

191. The MarkTen Elite’s “airflow passageway [J] enables airflow from the first end [F] to the second end [G].”



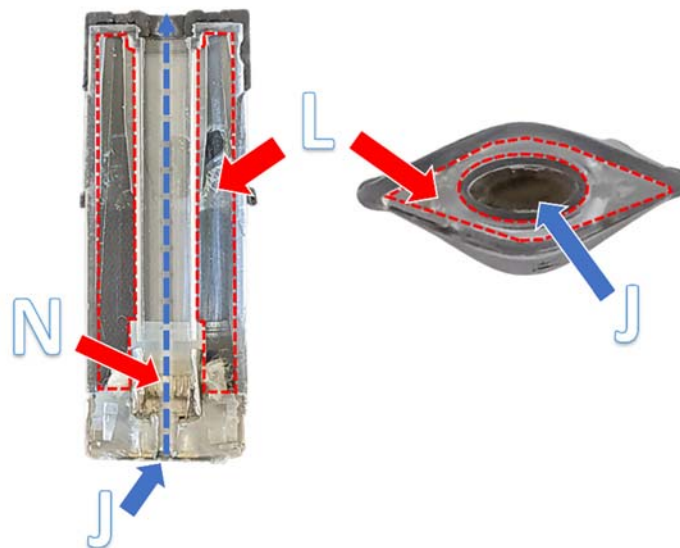
MarkTen Elite Figure 12.f.

192. The MarkTen Elite has “a solution holding medium [L] located in the interior of the housing [E].”



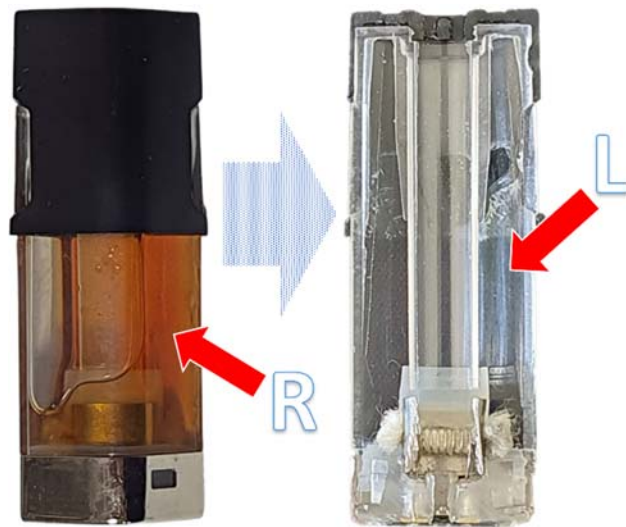
MarkTen Elite Figure 12.g.

193. The MarkTen Elite’s solution holding “medium [L] extends in surrounding relation of the heating element [N] and the airflow passageway [J].”



MarkTen Elite Figure 12.h.

194. The MarkTen Elite's solution holding "medium [L] includes a liquid solution [R]."



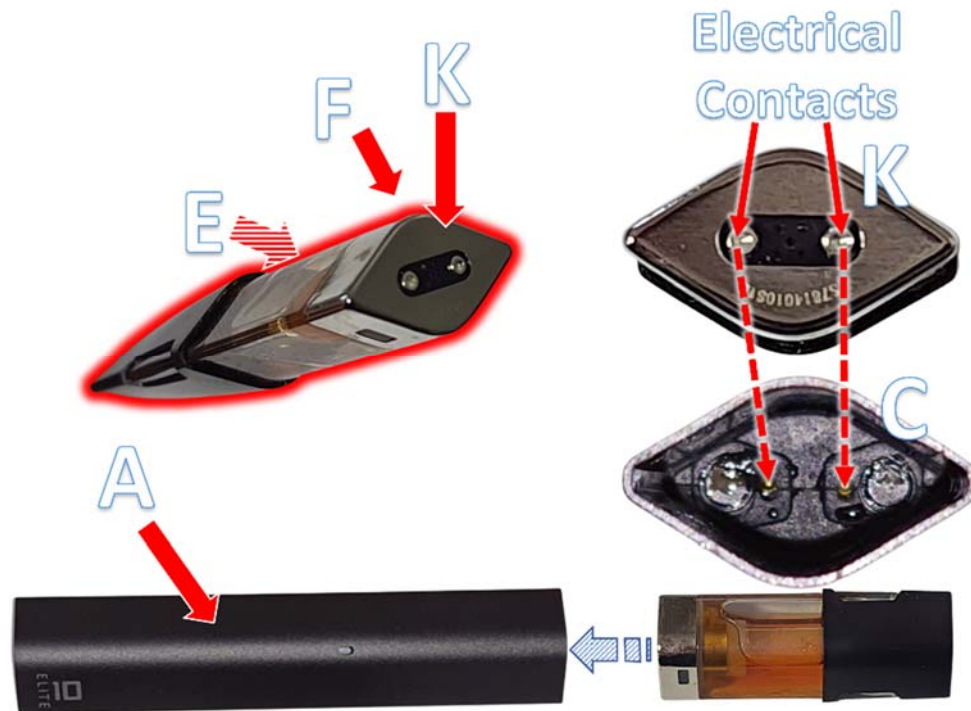
MarkTen Elite Figure 12.i.

195. The MarkTen Elite's solution holding "medium includes at least one of an absorbent material, a chamber, a reservoir [S], a capsule, or any combination thereof."



MarkTen Elite Figure 12.j.

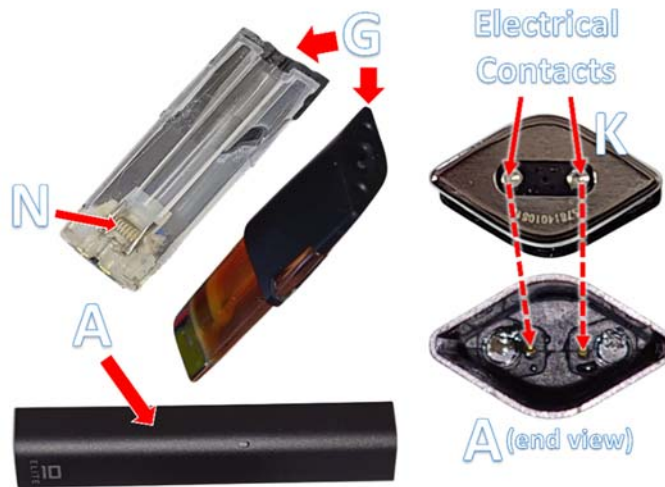
196. The MarkTen Elite's "first end [F] of the housing [E] includes an electrically conductive threaded portion [K] that is configured to mechanically and electrically couple to a further electrically conductive threaded portion [C] in operative connection with a power source [A]."



MarkTen Elite Figure 12.k.

The accused structures depicted as elements [K] and [C], including the annotated electrical contacts, are insubstantially different from an electrically conductive threaded portion, and perform the same function of operatively connecting the cartridge with the power source in substantially the same way, by mechanically and electrically coupling the cartridge and the power source, and yield the same result: enabling the generation of vapor for the user.

197. The MarkTen Elite's "heating element [N] is configured to vaporize at least a portion of the solution for oral delivery from the second end [G] of the housing upon receiving current from the power source [A] through the electrically conductive threaded portion of the cartridge [K]."



MarkTen Elite Figure 12.1.

198. As shown in the figure set forth in the following paragraph, the MarkTen Elite meets every limitation recited in Claim 13 of the '604 Patent.

199. The MarkTen Elite's "solution [M] comprises propylene glycol."



MarkTen Elite Figure 13.

200. As shown in the figure set forth in the following paragraph, the MarkTen Elite meets every limitation recited in Claim 14 of the '604 Patent.

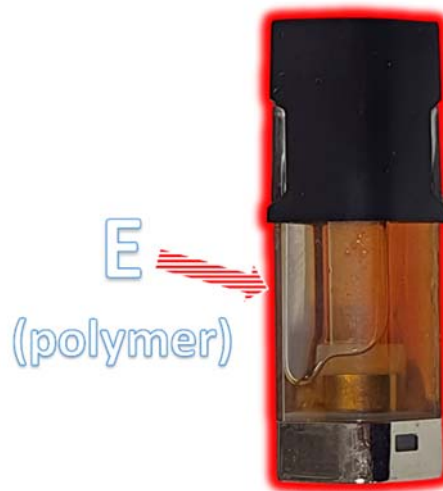
201. The MarkTen Elite's "heating element [N] comprises a wicking material [P] that is configured to attract the solution from the solution holding medium."



MarkTen Elite Figure 14.

202. As shown in the figure set forth in the following paragraph, the MarkTen Elite meets every limitation recited in Claim 15 of the '604 Patent.

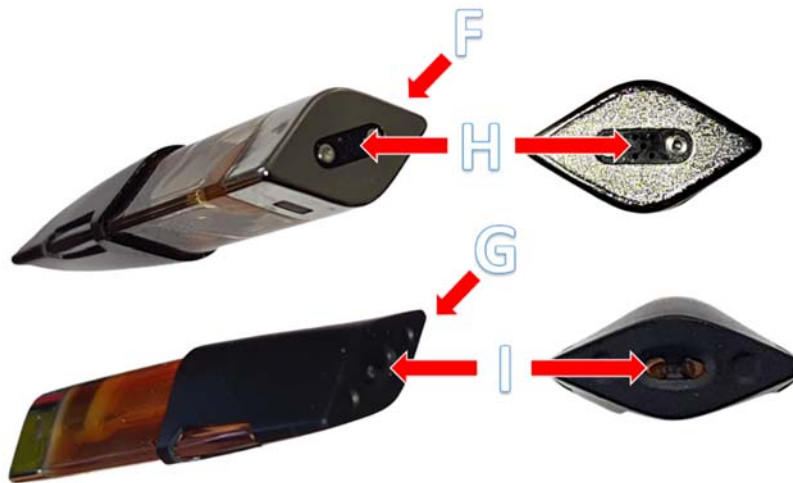
203. The MarkTen Elite's housing [E] is constructed of a non-metallic material "wherein the non-metallic material is one of a polymer or a ceramic."



MarkTen Elite Figure 15.

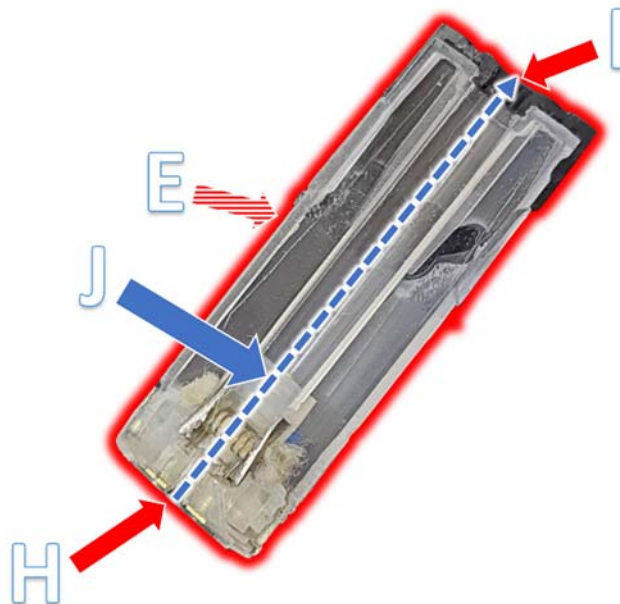
204. As shown in the figures set forth in paragraphs 205 through 208, the MarkTen Elite meets every limitation recited in Claim 16 of the '604 Patent.

205. The MarkTen Elite's "first end [F] comprises a centrally located first aperture [H] and the second end [G] comprises a centrally located second aperture [I]."



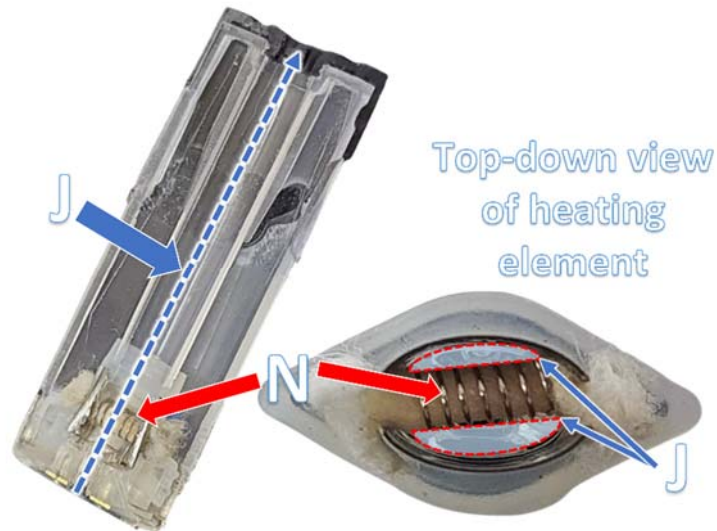
MarkTen Elite Figure 16.a.

206. The MarkTen Elite's "airflow passageway [J] extends between the first aperture [H] and the second aperture [I] axially through the interior of the housing [E]."



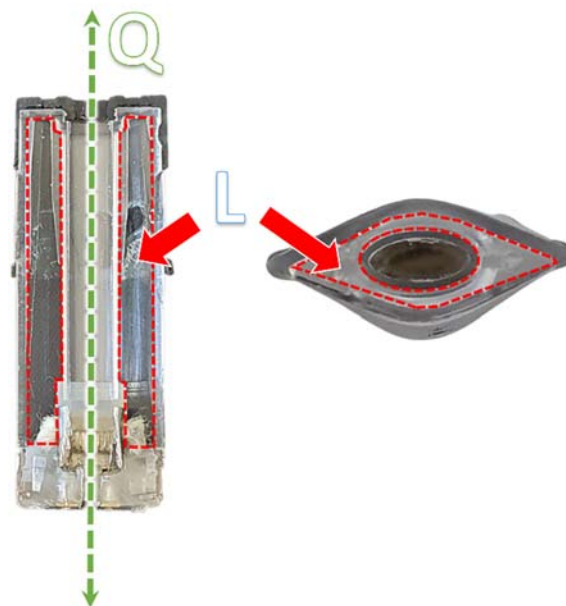
MarkTen Elite Figure 16.b.

207. In the MarkTen Elite, “at least a portion of the heating element [N] extends in the airflow passageway [J].”



MarkTen Elite Figure 16.c.

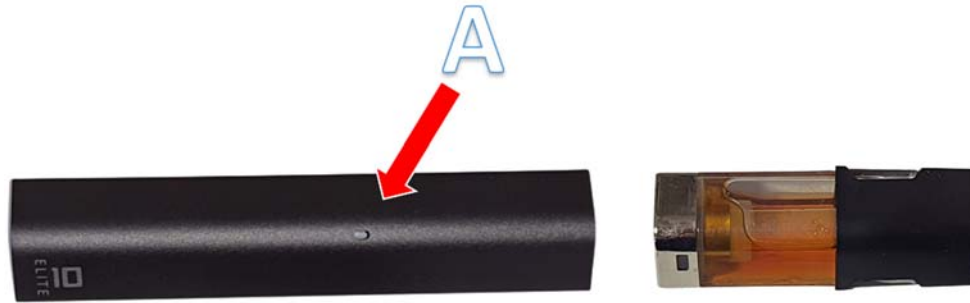
208. In the MarkTen Elite, “no portion of the solution holding medium [L] intersects the central longitudinal axis [Q].”



MarkTen Elite Figure 16.d.

209. As shown in the figure set forth in the following paragraph, the MarkTen Elite meets every limitation recited in Claim 18 of the '604 Patent.

210. The MarkTen Elite further comprises “the power source [A].”



MarkTen Elite Figure 18.

Indirect Infringement

211. Defendants have also contributorily infringed the '604 Patent in violation of 35 U.S.C. § 271(c) by, themselves and/or through their agents, contributing to the direct infringement of the '604 Patent by their customers by making, using, importing, offering to sell, and/or selling vaporizing device components that constitute a material part of the asserted claims of the '604 Patent and that have no substantial non-infringing use, which, when used by its customers as instructed by Defendants, result in direct infringement of the asserted claims of the '604 Patent by their customers, in this judicial district and within, from, and/or into the United States, without permission or license from Fuma.

212. Examples of vaporizing device components that constitute a material part of the invention of the asserted claims of the '604 Patent that have no substantial non-infringing uses, and that contribute to the direct infringement of the asserted claims include the MarkTen XL cartridge, the MarkTen XL power unit, the Green Smoke cartridge, the Green Smoke power unit, the MarkTen Elite cartridge, and the MarkTen Elite power unit.

213. Defendants know and knew of the '604 Patent. First, Fuma informed Altria of Fuma's '604 Patent in March 2017, shortly after the '604 Patent issued, and engaged in substantive communications about the '604 Patent. Second, upon information and belief, Defendants regularly survey the patent literature—and especially that of their competitors—for relevant patents and have encountered the '604 Patent. Third, Fuma informed Altria that it infringed the '604 Patent in May of 2022 via a letter from counsel, as set forth above. Fourth, this complaint informs Defendants about the patents-in-suit. Fifth, Defendants have cited related applications to the patents-in-suit during prosecution of their own patents. For example, Altria cited the '604 Patent's parent, U.S. Patent No. 8,897,628 (which has the same specification and corresponds to the patents-in-suit) during the prosecution of at least U.S. Patents Nos. 10,729,177, 10,518,243, 10,433,580, 10,433,585, 10,426,198, 10,420,374, 10,368,580, 10,368,581, 10,357,060, 10,314,338, 10,264,821, D847,419, D797,990, D790,122, D782,108, D767,820, and D767,822, European Patent Application Nos. 3,048,911 and 3,659,451, and Canadian Patent No. 161,693.

214. Upon information and belief, having knowledge of the '604 Patent, Defendants were aware that the purchase and use of the accused products, and components of the accused products, by Defendants' customers results in direct infringement of the '604 Patent by those customers when used as intended, as designed, and as instructed by Defendants.

215. Defendants instructed users on how to use the MarkTen XL, Green Smoke, and MarkTen Elite products and components of the same. (*See* Ex. L, MarkTen XL Product Information Guide, Ex. M, Green Smoke E-Vapor Kit User Guide, Ex. N, MarkTen Elite Product Information Guide).

216. Defendants instructed users to purchase and use replacement MarkTen XL, Green Smoke, and MarkTen Elite cartridges when they were depleted. (*See* Ex. L, MarkTen XL Product Information Guide (“When your cartridge is almost empty, you will notice a reduction in flavor and vapor. Please replace the cartridge.”), Ex. M, Green Smoke E-Vapor Kit User Guide (“When the vapor volume starts to diminish . . . [y]ou can purchase more cartridges either online or in selected retail stores.”), Ex. N, MarkTen Elite Product Information Guide (“When your pod is almost empty, you will notice a reduction in flavor and vapor. Please replace the pod.”)).

217. Furthermore, Defendants instructed users that the MarkTen XL, Green Smoke, and MarkTen Elite power units are only meant for use with MarkTen XL, Green Smoke, and MarkTen Elite cartridges, respectively. (*See* Ex. L, MarkTen XL Product Information Guide (“Use only MarkTen®XL cartridges with your MarkTen®XL device.”), Ex. M, Green Smoke E-Vapor Kit User Guide (“Green Smoke® cartridges should only be used with Green Smoke® batteries.”), Ex. N, MarkTen Elite Product Information Guide (“Use only MarkTen®ELITE pods with your MarkTen®ELITE device.”)).

218. The MarkTen XL, Green Smoke, and MarkTen Elite cartridges contributorily infringe the ’604 Patent because they meet every element of the asserted claims except those requiring a power source. The MarkTen XL, Green Smoke, and MarkTen Elite cartridges can only be used with their corresponding MarkTen XL, Green Smoke, and MarkTen Elite power units, and the MarkTen XL, Green Smoke, and MarkTen Elite cartridges, when used with their corresponding power units, meet every limitation of the asserted claims. Thus, the MarkTen XL, Green Smoke, and MarkTen Elite cartridges have no substantial non-infringing use and contribute to the direct infringement of the ’604 Patent.

219. The MarkTen XL, Green Smoke, and MarkTen Elite power units contributorily infringe the '604 Patent because they meet those elements of the asserted claims requiring a power source. The MarkTen XL, Green Smoke, and MarkTen Elite power units can only be used with MarkTen XL, Green Smoke, and MarkTen Elite cartridges, respectively, and the MarkTen XL, Green Smoke, and MarkTen Elite power units when used with the MarkTen XL, Green Smoke, and MarkTen Elite cartridges meet every limitation of the asserted claims. Thus, the MarkTen XL, Green Smoke, and MarkTen Elite power units have no substantial non-infringing use and contribute to the direct infringement of the '604 Patent.

220. As such, Defendants know that the MarkTen XL, Green Smoke, and MarkTen Elite products and components of the MarkTen XL, Green Smoke, and MarkTen Elite, including, but not limited to, the MarkTen XL cartridge, the MarkTen XL power unit, the Green Smoke cartridge, the Green Smoke power unit, the MarkTen Elite cartridge, and the MarkTen Elite power unit, when sold separately, have no substantial non-infringing uses other than to provide users with the ability to assemble and use a vaporizing device that directly infringes the '604 Patent, and, therefore, that they are especially made or adapted for use in direct infringement of the '604 Patent.

221. The cartridge and battery of the respective accused products are components of a single assembly or parts of a complete machine that together constitute a functional unit. As such, Fuma is entitled to damages for sales of the accused products, whether the cartridge and power units are sold separately or together, either as direct infringement, indirect infringement, or as convoyed sales.

222. Upon information and belief, additional vaporizing device components that constitute a material part of the invention of the asserted claims of the '604 Patent that have no

substantial non-infringing uses, and that contribute to the direct infringement of the asserted claims NJOY's Vape Pen Tank, NJOY Vape Pen Battery, NJOY Loop Pods, and NJOY Loop Battery products.

223. Upon information and belief, Defendants also instructed users on how to use the NJOY's Vape Pen and Loop products and components of the same. Each of these products likewise consists of a cartridge—sometimes referred to by NJOY as a tank or pod—designed for use with a particular connectable battery. Thus, the cartridges of these products contributorily infringe one or more '604 patent claims requiring a power source, and the batteries of these products contributorily infringe one or more '604 patent claims requiring a cartridge, as the cartridge alone or battery alone have no substantial non-infringing uses. Furthermore, the cartridge and battery of these products are components of a single assembly or parts of a complete machine that together constitute a functional unit. As such, Fuma is entitled to damages for sales of these, whether the cartridge and batteries are sold separately or together, either as direct infringement, indirect infringement, or as convoyed sales.

224. As a direct and proximate result of the infringing acts of Defendants, Plaintiff has suffered, and is entitled to, monetary damages that adequately compensate Fuma for Defendants' infringement, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

225. As of July 2017, substantially all products sold by Fuma that embody the '604 patent were marked with the '604 patent number and Fuma has met all requirements of 35 U.S.C. § 287. Fuma's monetary damages are therefore not limited by 35 U.S.C. § 287 during any period after that date.

INFRINGEMENT OF U.S. PATENT NO. 10,334,881

226. Fuma hereby realleges each allegation set forth in the paragraphs above as though fully set forth herein.

227. Upon information and belief, Defendant NJOY had both actual and constructive knowledge of the '881 Patent soon after issuance based on Fuma's marking of its products with the '881 Patent number.

228. Defendant NJOY has directly infringed the '881 Patent in violation of at least 35 U.S.C. § 271(a) by, itself and/or through its agents, unlawfully and wrongfully making, using, importing, offering to sell, and/or selling vaporizing device products embodying one or more of the inventions claimed in the '881 Patent, within, from and/or into the United States without permission or license from Plaintiff.

229. Upon information and belief, NJOY's Loop product directly infringed one or more claims of the '881 patent either literally and/or under the doctrine of equivalents.

230. Upon information and belief, the NJOY Loop's components constituted a material part of the invention of the asserted claims of the '881 Patent that have no substantial non-infringing uses, and that contribute to the direct infringement of at least one claim of the '881 Patent.

231. Upon information and belief, Defendants also instructed users on how to use the NJOY Loop product and components of the same. The NJOY Loop consisted of a cartridge—sometimes referred to by NJOY as a Loop Pod—designed for use with a particular connectable battery. Thus, the cartridges of these products contributorily infringe one or more '881 Patent claims requiring a power source, and the batteries of these products contributorily infringe one or more '881 Patent claims requiring a cartridge, as the cartridge alone or battery alone have no

substantial non-infringing uses. Furthermore, the cartridge and battery of the NJOY Loop were components of a single assembly or parts of a complete machine that together constitute a functional unit. As such, Fuma is entitled to damages for sales of the NJOY Loop, whether the cartridge and batteries were sold separately or together, either as direct infringement, indirect infringement, or as convoyed sales.

232. As a direct and proximate result of the infringing acts of NJOY, Plaintiff has suffered, and is entitled to, monetary damages that adequately compensate Fuma for NJOY's infringement, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

INFRINGEMENT OF U.S. PATENT NO. 11,497,864

233. Fuma hereby realleges each allegation set forth in the paragraphs above as though fully set forth herein.

234. Upon information and belief, Defendants had both actual and constructive knowledge of the '864 Patent soon after issuance based on Fuma's marking of its products with the '864 Patent number.

235. Defendant has had actual knowledge that its activities constitute infringement of '864 Patent no later than the filing of this Complaint.

236. Defendants have directly infringed the '864 Patent in violation of at least 35 U.S.C. § 271(a) by, themselves and/or through their agents, unlawfully and wrongfully making, using, importing, offering to sell, and/or selling vaporizing device products embodying one or more of the inventions claimed in the '864 Patent, within, from and/or into the United States without permission or license from Plaintiff.

237. The vaporizing products that directly infringe the '864 Patent include the NJOY Ace.

238. The images of the products set forth herein accurately show the features of the NJOY Ace.

239. The accused products infringe the '864 patent literally and/or under the doctrine of equivalents.

240. The NJOY Ace product infringes claims 1, 2, 5, 6, 9-15, 17, 20, 21, 22, 25, 26, 29-34, 38-41, 45, and 46 of Fuma's '864 Patent.

Direct Infringement: NJOY Ace

241. Claim 1 of the '864 Patent reads as follows:

1. A cartridge configured to couple to a power source of an electronic vaporizer, the cartridge comprising:
 - a housing having an interior and a solution holding medium adapted to hold a solution, the housing having a first end and a second end that is opposite the first end, the housing having a first aperture proximate the first end and a second aperture proximate the second end, the first end of the housing being adapted to electrically couple to the power source, the first aperture and the second aperture being in communication with one another to permit an airflow through the housing from the first aperture to the second aperture;
 - a heating element located in the interior of the housing, the heating element extending transversely to a central longitudinal axis of the housing and being at least partially exposed to the airflow, the heating element being configured to vaporize at least a portion of the solution for oral provision to an individual in the airflow, the heating element being responsive to electrical power received from the power source; and
 - an airflow passageway in the housing, at least a portion of the airflow passageway extending centrally and axially with respect to the housing,wherein the airflow passageway extends centrally and axially from the first aperture to the second aperture.

242. As shown in the figures set forth in paragraphs 243 through 255, the NJOY Ace meets every limitation recited in Claim 1 of the '864 Patent.

243. To the extent that the preamble of Claim 1 is limiting, the NJOY Ace has “A cartridge [D] configured to couple to a power source [A] of an electronic vaporizer.”



NJOY Ace Figure 1.pre.

244. The NJOY Ace includes “a housing [E] having an interior and a solution holding medium [L] adapted to hold a solution [M].”



NJOY Ace Figure 1.a.

245. The NJOY Ace includes a “housing [E] having a first end [F] and a second end [G] that is opposite the first end [F].”



NJOY Ace Figure 1.b.

246. The NJOY Ace includes a “housing [E] having a first aperture [H] proximate the first end [F] and a second aperture [I] proximate the second end [G].”



NJOY Ace Figure 1.c.

247. The NJOY Ace includes a housing with “the first end [F] of the housing [E] being adapted to electrically couple to the power source [A].”



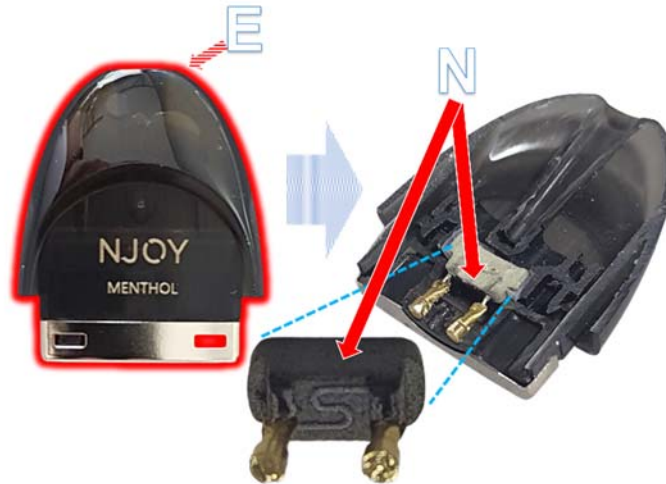
NJOY Ace Figure 1.d.

248. The NJOY Ace includes a housing with “the first aperture [H] and the second aperture [I] being in communication with one another to permit an airflow through the housing from the first aperture [H] to the second aperture [I].”



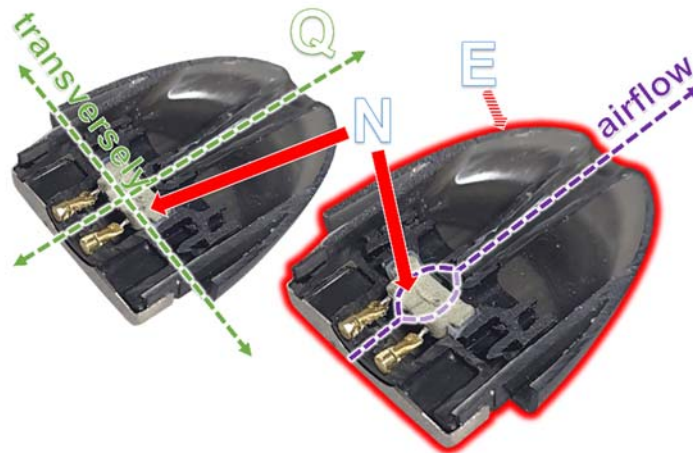
NJOY Ace Figure 1.e

249. The NJOY Ace includes “a heating element [N] located in the interior of the housing [E].”



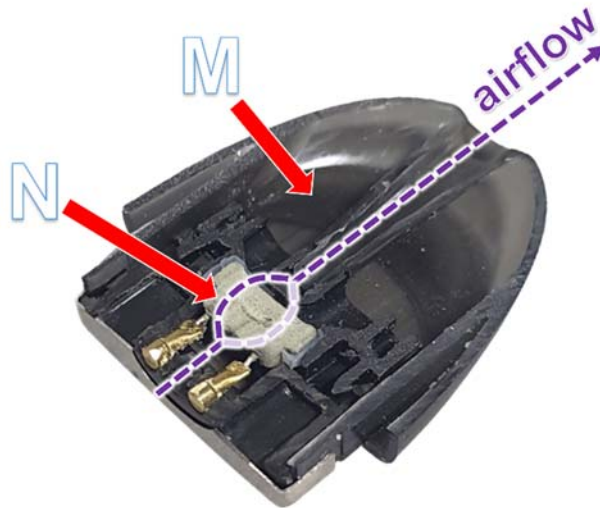
NJOY Ace Figure 1.f.

250. The NJOY Ace includes a heating element with “the heating element [N] extending transversely to a central longitudinal axis [Q] of the housing [E] and being at least partially exposed to the airflow.”



NJOY Ace Figure 1.g.

251. The NJOY Ace includes a heating element with “the heating element [N] being configured to vaporize at least a portion of the solution [M] for oral provision to an individual in the airflow.”



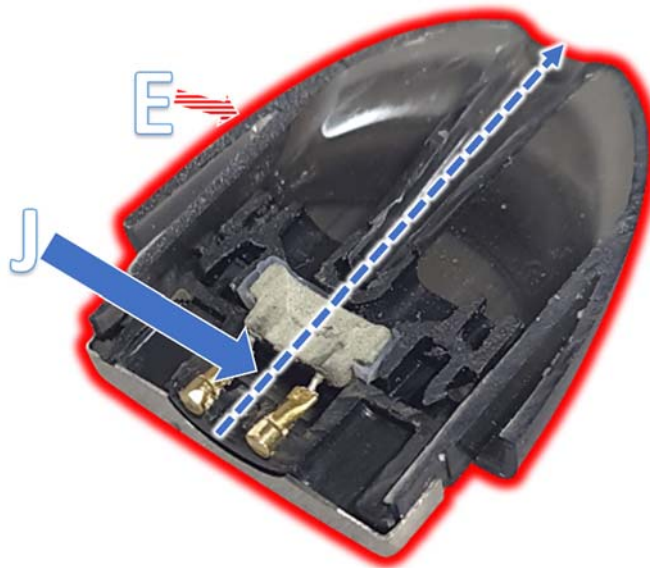
NJOY Ace Figure 1.h.

252. The NJOY Ace includes a heating element with “the heating element [N] being responsive to electrical power received from the power source [A].”



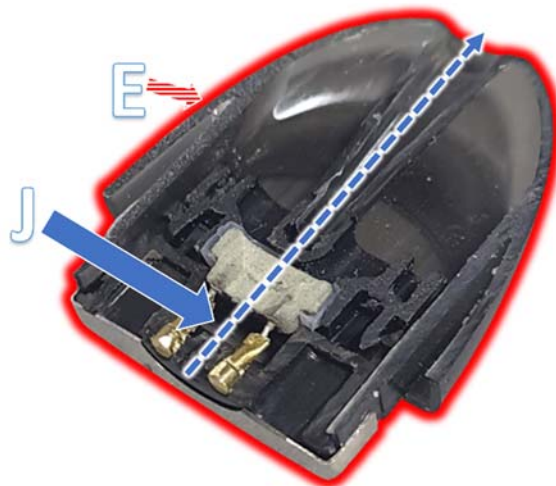
NJOY Ace Figure 1.i.

253. The NJOY Ace has “an airflow passageway [J] in the housing [E].”



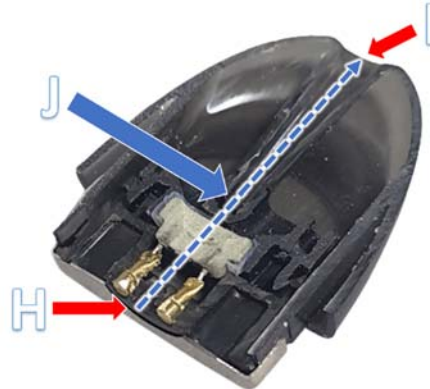
NJOY Ace Figure 1.j.

254. The NJOY Ace has, “at least a portion of the airflow passageway [J] extending centrally and axially with respect to the housing [E].”



NJOY Ace Figure 1.k.

255. In the NJOY Ace, “the airflow passageway [J] extends centrally and axially from the first aperture [H] to the second aperture [I].”



NJOY Ace Figure 1.1.

256. Claim 2 of the '864 Patent reads as follows:

2. The cartridge of claim 1, further in combination with a power source adapted to be electrically coupled to the first end of the housing, the power source including a battery.

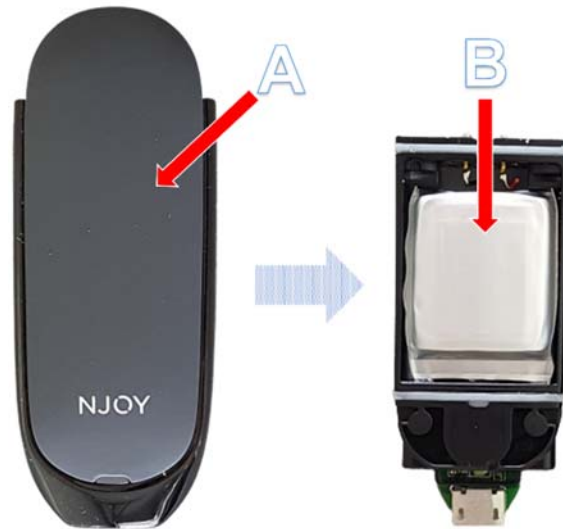
257. As shown in the figures set forth in paragraphs 258 through 259, the NJOY Ace meets every limitation recited in Claim 2 of the '864 Patent.

258. The NJOY Ace has “a power source [A] adapted to be electrically coupled to the first end [F] of the housing [E].”



NJOY Ace Figure 2.a.

259. The NJOY Ace has a “power source [A] including a battery [B].”



NJOY Ace Figure 2.b.

260. Claim 5 of the '864 Patent reads as follows:

5. A cartridge configured to couple to a power source of an electronic vaporizer, the cartridge comprising:

a housing having an interior and a solution holding medium adapted to hold a solution, the housing having a first end and a second end that is opposite the first end, the housing having a first aperture proximate the first end and a second aperture proximate the second end, the first end of the housing being adapted to electrically couple to the power source, the first aperture and the second aperture being in communication with one another to permit an airflow through the housing from the first aperture to the second aperture;

a heating element located in the interior of the housing, the heating element extending transversely to a central longitudinal axis of the housing and being at least partially exposed to the airflow, the heating element being configured to vaporize at least a portion of the solution for oral provision to an individual in the airflow, the heating element being responsive to electrical power received from the power source; and

an airflow passageway in the housing, at least a portion of the airflow passageway extending centrally and axially with respect to the housing,

wherein the airflow passageway extends in a straight path from the first aperture to the second aperture with only the heating element obstructing a portion of the airflow through the airflow passageway along the central longitudinal axis of the housing.

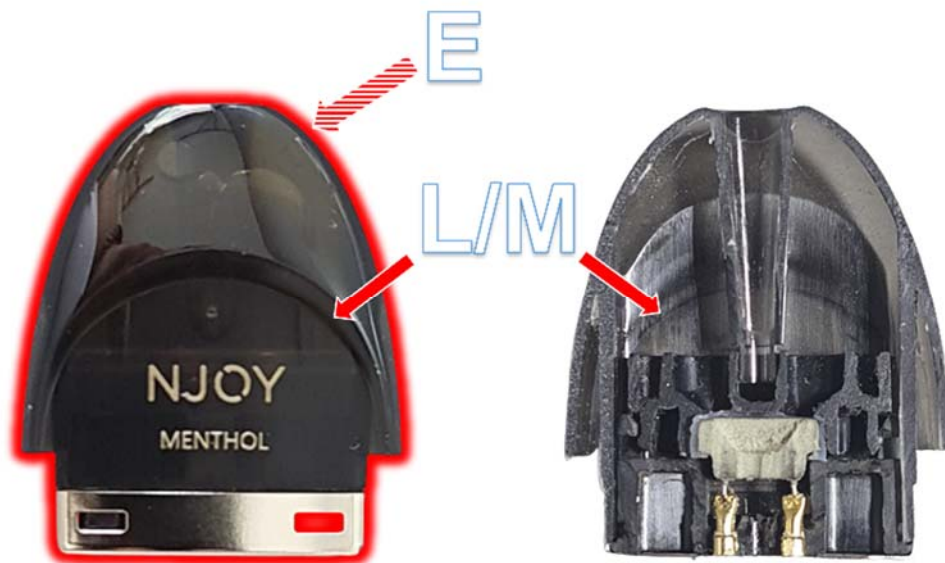
261. As shown in the figures set forth in paragraphs 262 through 274, the NJOY Ace meets every limitation recited in Claim 5 of the '864 Patent.

262. To the extent that the preamble of Claim 5 is limiting, the NJOY Ace has “A cartridge [D] configured to couple to a power source [A] of an electronic vaporizer.”



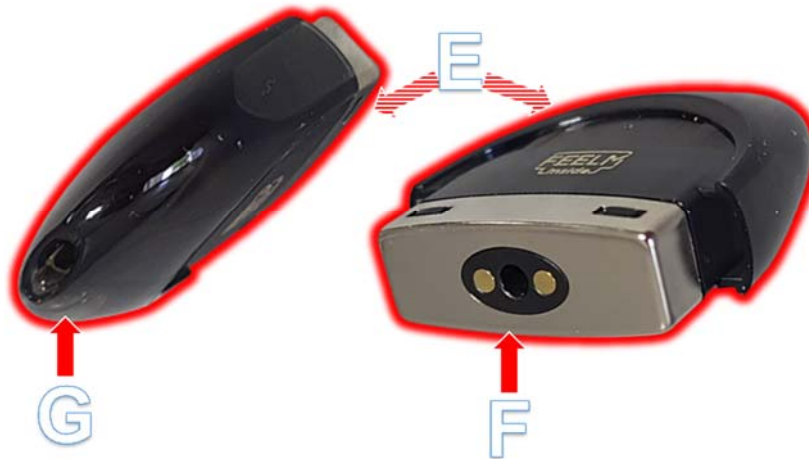
NJOY Ace Figure 5.pre.

263. The NJOY Ace includes “a housing [E] having an interior and a solution holding medium [L] adapted to hold a solution [M].”



NJOY Ace Figure 5.a.

264. The NJOY Ace includes a “housing [E] having a first end [F] and a second end [G] that is opposite the first end [F].”



NJOY Ace Figure 5.b.

265. The NJOY Ace includes a “housing [E] having a first aperture [H] proximate the first end [F] and a second aperture [I] proximate the second end [G].”



NJOY Ace Figure 5.c.

266. The NJOY Ace includes a housing with “the first end [F] of the housing [E] being adapted to electrically couple to the power source [A].”



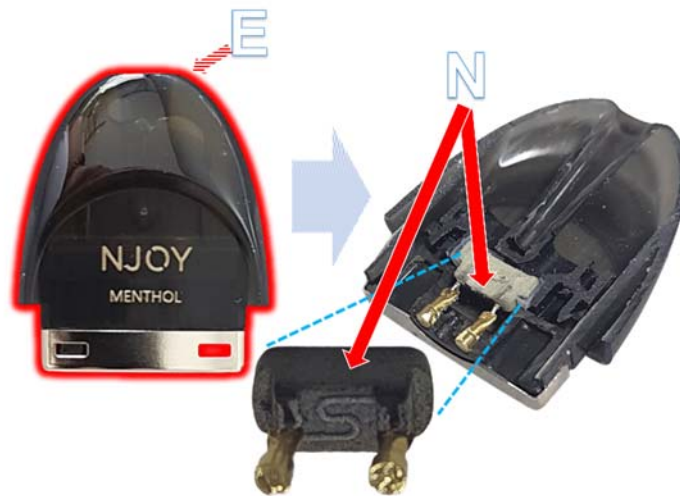
NJOY Ace Figure 5.d.

267. The NJOY Ace includes a housing with “the first aperture [H] and the second aperture [I] being in communication with one another to permit an airflow through the housing from the first aperture [H] to the second aperture [I].”



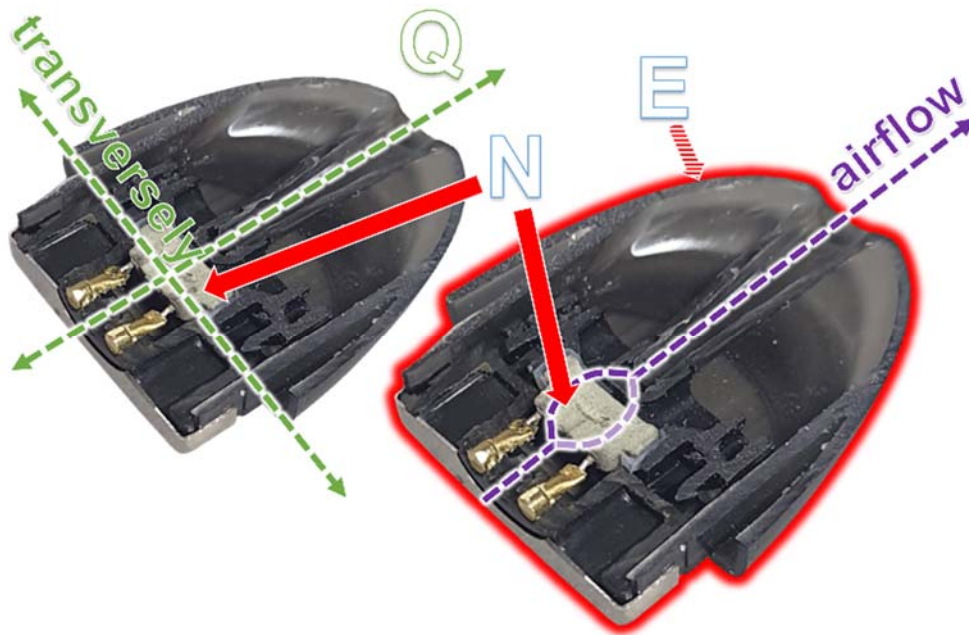
NJOY Ace Figure 5.e.

268. The NJOY Ace includes “a heating element [N] located in the interior of the housing [E].”



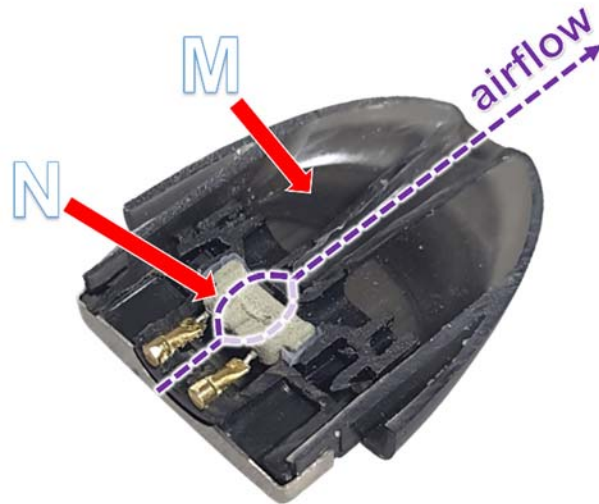
NJOY Ace Figure 5.f.

269. The NJOY Ace includes a heating element with “the heating element [N] extending transversely to a central longitudinal axis [Q] of the housing [E] and being at least partially exposed to the airflow.”



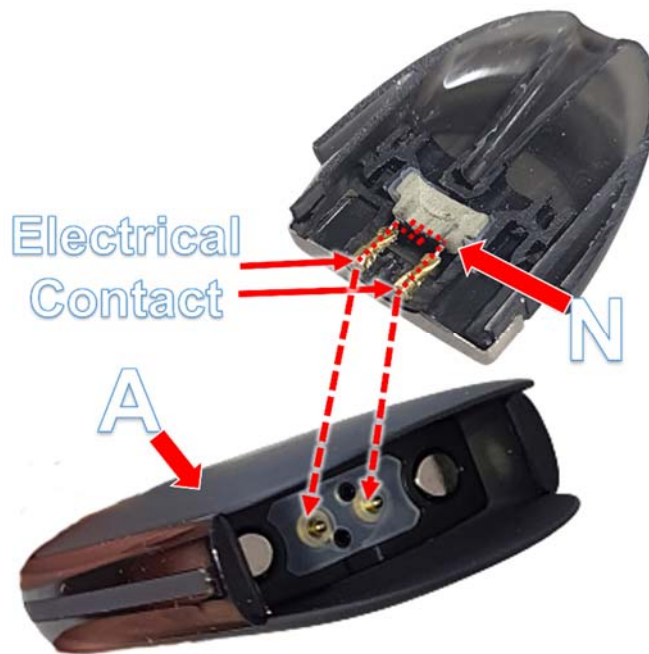
NJOY Ace Figure 5.g.

270. The NJOY Ace includes a heating element with “the heating element [N] being configured to vaporize at least a portion of the solution [M] for oral provision to an individual in the airflow.”



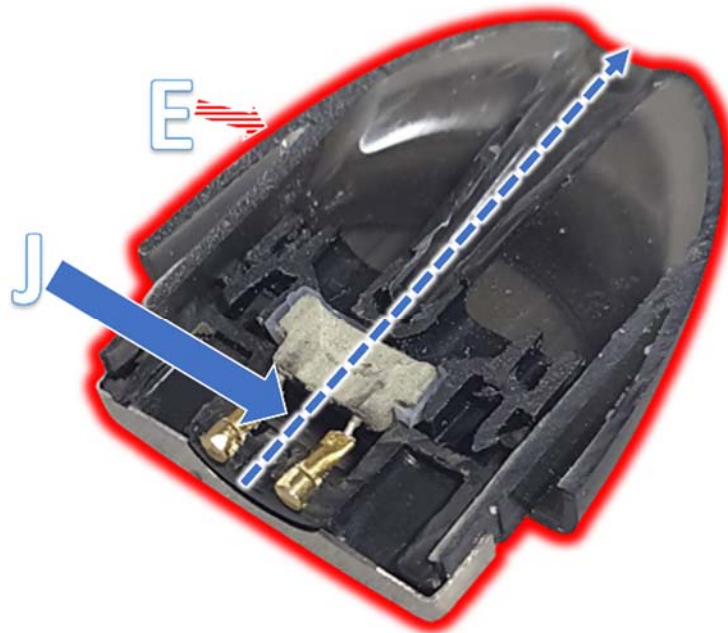
NJOY Ace Figure 5.h.

271. The NJOY Ace includes a heating element with “the heating element [N] being responsive to electrical power received from the power source [A].”



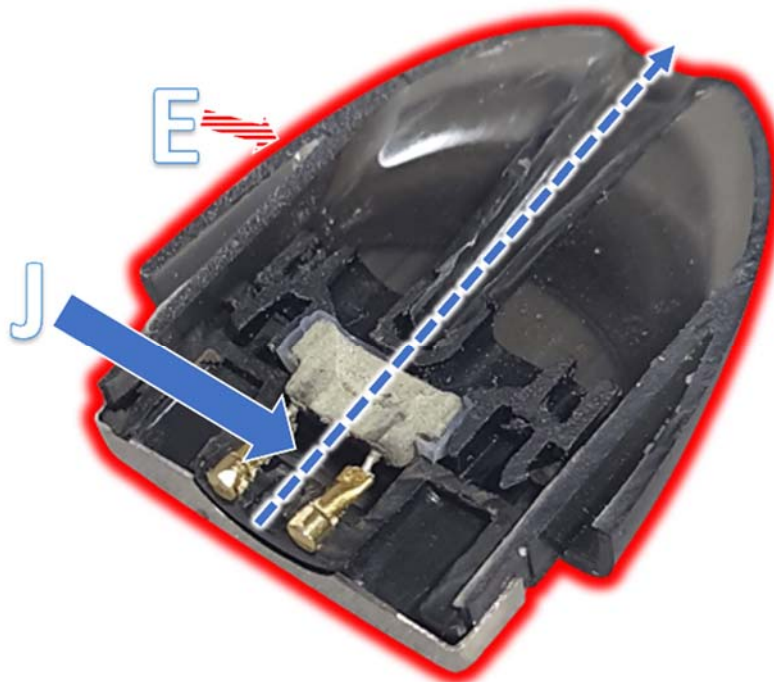
NJOY Ace Figure 5.i.

272. The NJOY Ace has “an airflow passageway [J] in the housing [E].”



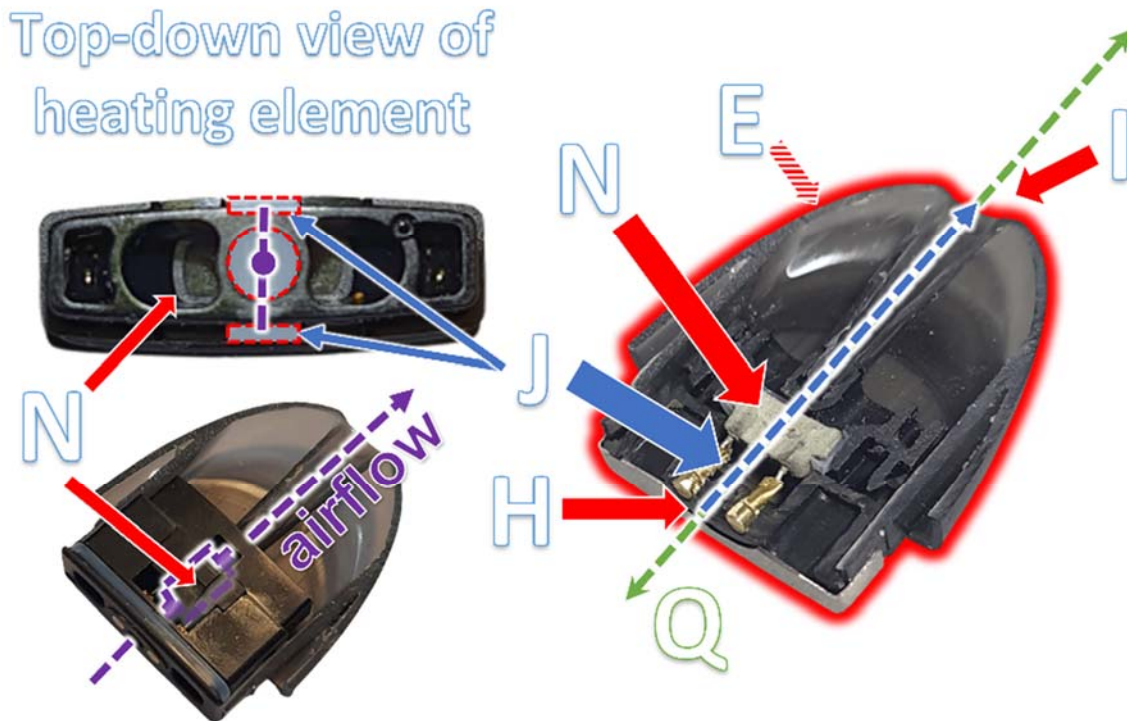
NJOY Ace Figure 5.j.

273. The NJOY Ace has, “at least a portion of the airflow passageway [J] extending centrally and axially with respect to the housing [E].”



NJOY Ace Figure 5.k.

274. In the NJOY Ace, “the airflow passageway [J] extends in a straight path from the first aperture [H] to the second aperture [I] with only the heating element [N] obstructing a portion of the airflow through the airflow passageway [J] along the central longitudinal axis [Q] of the housing [E].”



NJOY Ace Figure 5.1.

275. Claim 6 of the '864 Patent reads as follows:

6. The cartridge of claim 5, further in combination with a power source adapted to be electrically coupled to the first end of the housing, the power source including a battery.

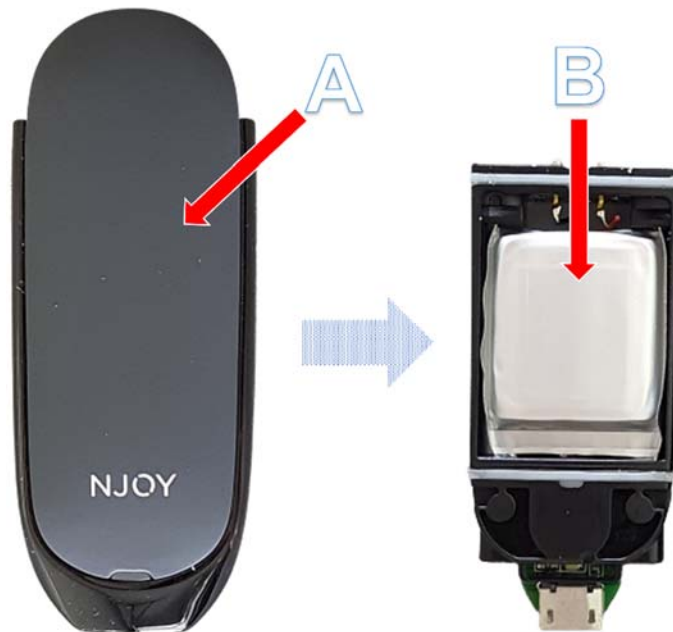
276. As shown in the figures set forth in paragraphs 277 through 278, the NJOY Ace meets every limitation recited in Claim 6 of the '864 Patent.

277. The NJOY Ace has “a power source [A] adapted to be electrically coupled to the first end [F] of the housing [E].”



NJOY Ace Figure 6.a.

278. The NJOY Ace has a “power source [A] including a battery [B].”



NJOY Ace Figure 6.b.

279. Claim 9 of the '864 Patent reads as follows:

9. A cartridge configured to couple to a power source of an electronic vaporizer, the cartridge comprising:
 a housing having an interior and a solution holding medium adapted to hold a solution, the housing having a first end and a second end that is opposite the first end, the housing having a first aperture proximate the first end and a second aperture proximate the second end, the first end of the housing being adapted to electrically couple to the power source, the first aperture and the second aperture being in communication with one another to permit an airflow through the housing from the first aperture to the second aperture; and
 a heating element located in the interior of the housing, the heating element extending transversely to a central longitudinal axis of the housing and being at least partially exposed to the airflow, the heating element being configured to vaporize at least a portion of the solution for oral provision to an individual in the airflow, the heating element being responsive to electrical power received from the power source,
 wherein the airflow through the housing follows an airflow path, a first portion of the airflow path proximate the first aperture being defined substantially centrally and axially with respect to the central longitudinal axis of the housing, and a second portion of the airflow path proximate to the second aperture being defined substantially centrally and axially with respect to the central longitudinal axis of the housing.

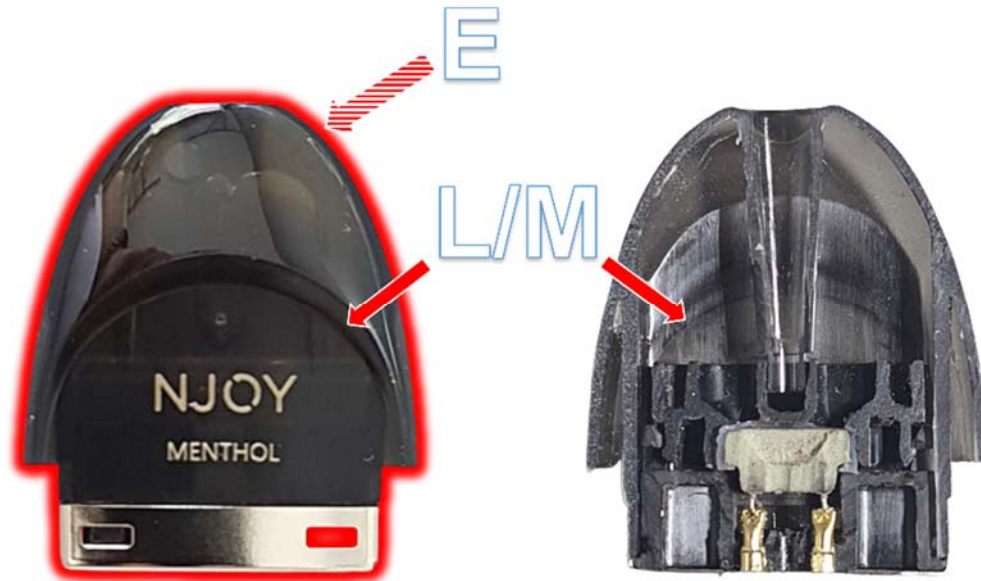
280. As shown in the figures set forth in paragraphs 281 through 293, the NJOY Ace meets every limitation recited in Claim 9 of the '864 Patent.

281. To the extent that the preamble of Claim 9 is limiting, the NJOY Ace has “A cartridge [D] configured to couple to a power source [A] of an electronic vaporizer.”



NJOY Ace Figure 9.pre.

282. The NJOY Ace includes “a housing [E] having an interior and a solution holding medium [L] adapted to hold a solution [M].”



NJOY Ace Figure 9.a.

283. The NJOY Ace includes a “housing [E] having a first end [F] and a second end [G] that is opposite the first end [F].”



NJOY Ace Figure 9.b.

284. The NJOY Ace includes a “housing [E] having a first aperture [H] proximate the first end [F] and a second aperture [I] proximate the second end [G].”



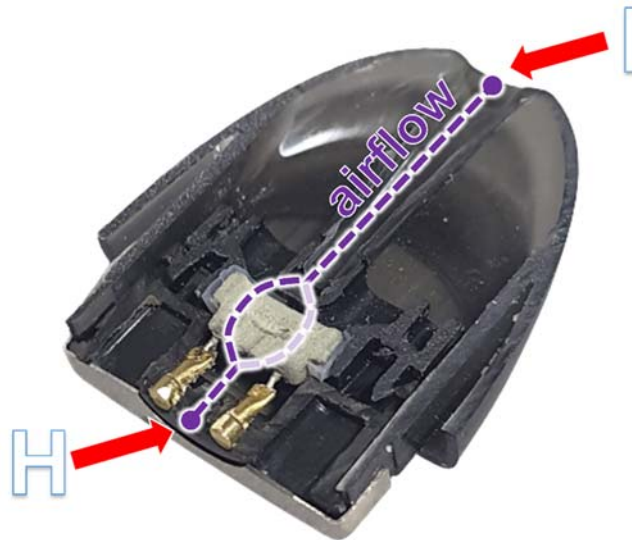
NJOY Ace Figure 9.c.

285. The NJOY Ace includes a housing with “the first end [F] of the housing [E] being adapted to electrically couple to the power source [A].”



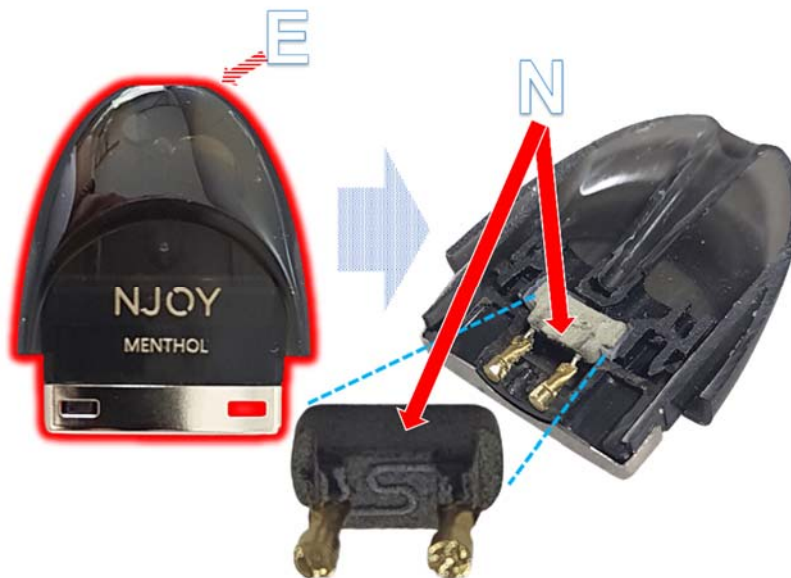
NJOY Ace Figure 9.d.

286. The NJOY Ace includes a housing with “the first aperture [H] and the second aperture [I] being in communication with one another to permit an airflow through the housing from the first aperture [H] to the second aperture [I].”



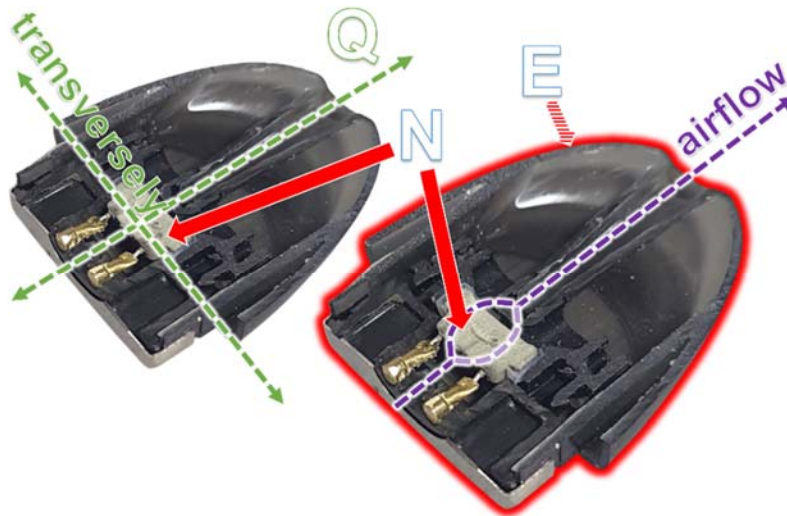
NJOY Ace Figure 9.e.

287. The NJOY Ace includes “a heating element [N] located in the interior of the housing [E].”



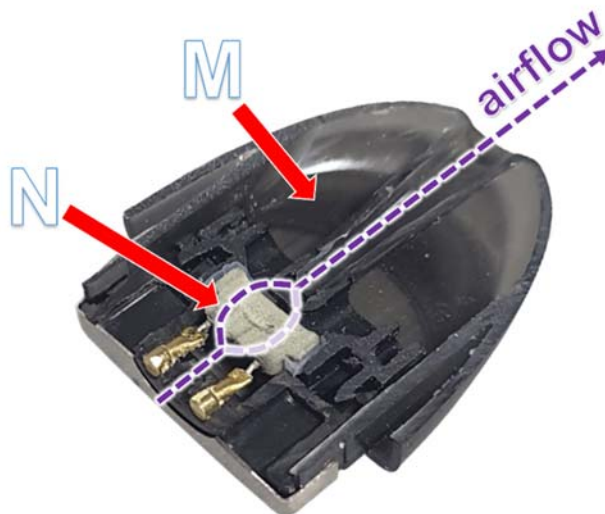
NJOY Ace Figure 9.f.

288. The NJOY Ace includes a heating element with “the heating element [N] extending transversely to a central longitudinal axis [Q] of the housing [E] and being at least partially exposed to the airflow.”



NJOY Ace Figure 9.g.

289. The NJOY Ace includes a heating element with “the heating element [N] being configured to vaporize at least a portion of the solution [M] for oral provision to an individual in the airflow.”



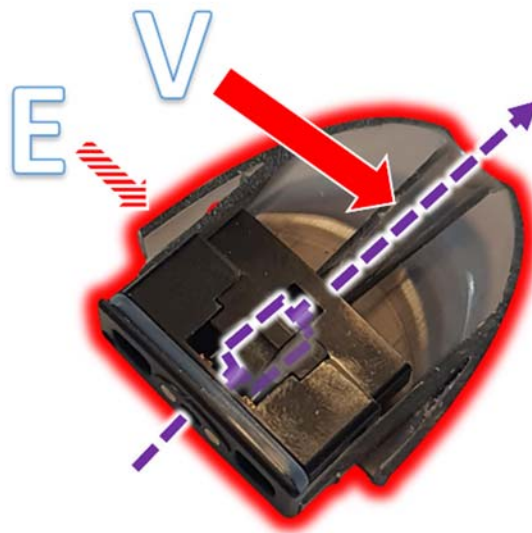
NJOY Ace Figure 9.h.

290. The NJOY Ace includes a heating element with “the heating element [N] being responsive to electrical power received from the power source [A].”



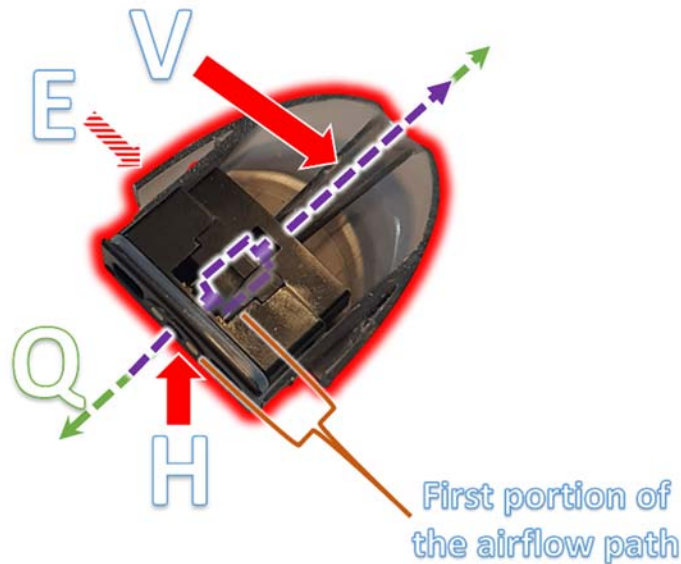
NJOY Ace Figure 9.i

291. In the NJOY Ace, “the airflow through the housing [E] follows an airflow path [V].”



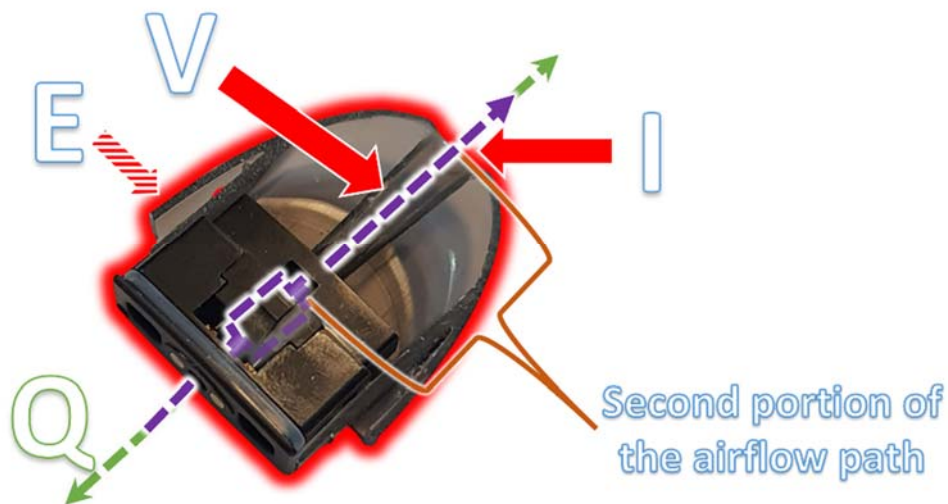
NJOY Ace Figure 9.j

292. The NJOY Ace has “a first portion of the airflow path [V] proximate the first aperture [H] being defined substantially centrally and axially with respect to the central longitudinal axis [Q] of the housing [E].”



NJOY Ace Figure 9.k.

293. The NJOY Ace has “a second portion of the airflow path [V] proximate to the second aperture [I] being defined substantially centrally and axially with respect to the central longitudinal axis [Q] of the housing [E].”



NJOY Ace Figure 9.l.

294. Claim 10 of the '864 Patent reads as follows:

10. The cartridge of claim 9, further in combination with a power source adapted to be electrically coupled to the first end of the housing, the power source including a battery.

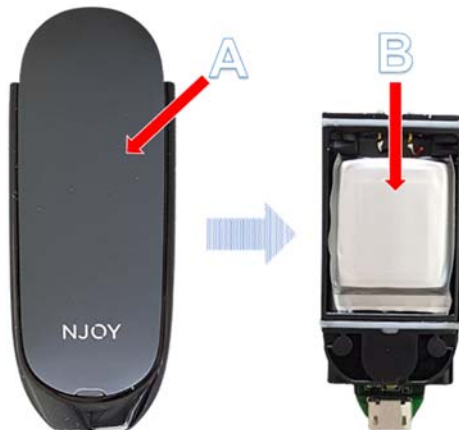
295. As shown in the figures set forth in paragraphs 296 through 297, the NJOY Ace meets every limitation recited in Claim 10 of the '864 Patent.

296. The NJOY Ace has “a power source [A] adapted to be electrically coupled to the first end [F] of the housing [E].”



NJOY Ace Figure 10.a.

297. 10.b. The NJOY Ace has a “power source [A] including a battery [B].”



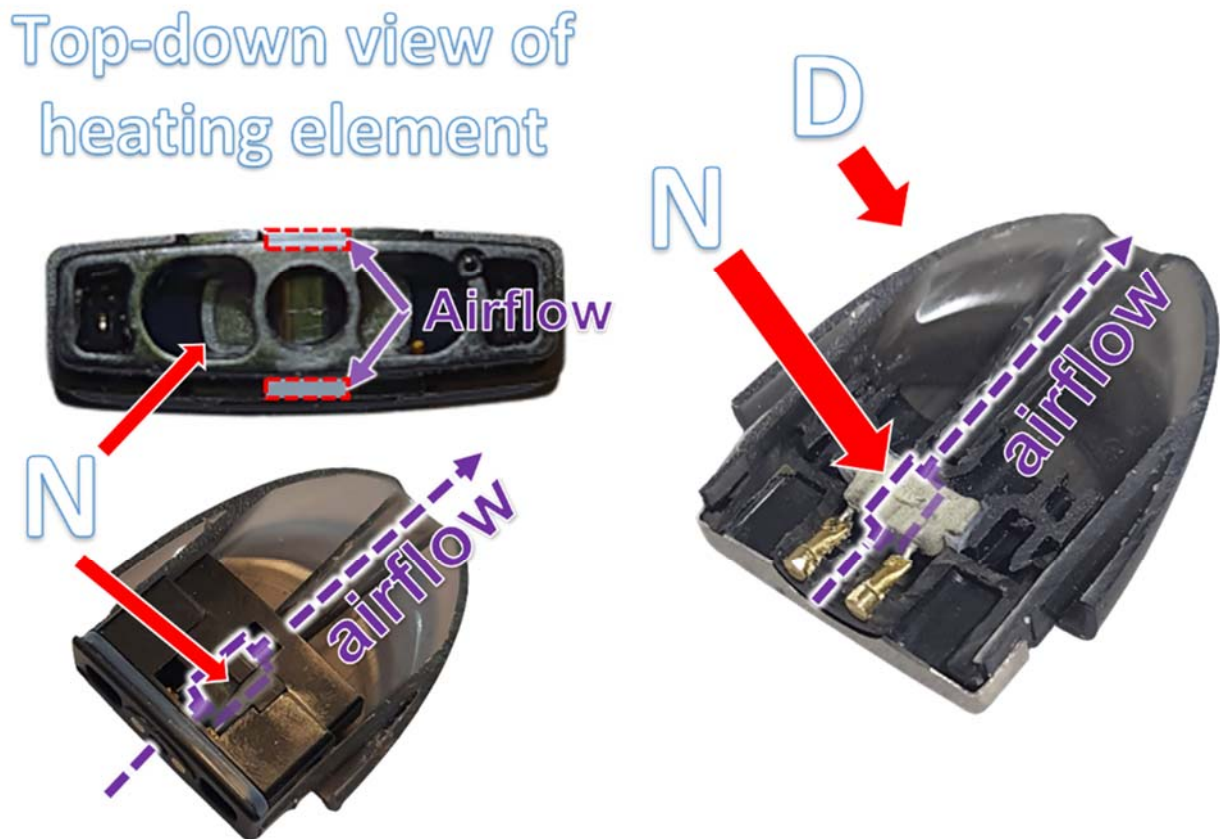
NJOY Ace Figure 10.b.

298. Claim 11 of the '864 Patent reads as follows:

11. The cartridge of claim 9, wherein the cartridge is adapted to permit the airflow to pass on both transverse sides of the heating element during use of the electronic vaporizer.

299. As shown in the figure set forth in the following paragraph, the NJOY Ace meets every limitation recited in Claim 11 of the '864 Patent.

300. In the NJOY Ace, “the cartridge [D] is adapted to permit the airflow to pass on both transverse sides of the heating element [N] during use of the electronic vaporizer.”



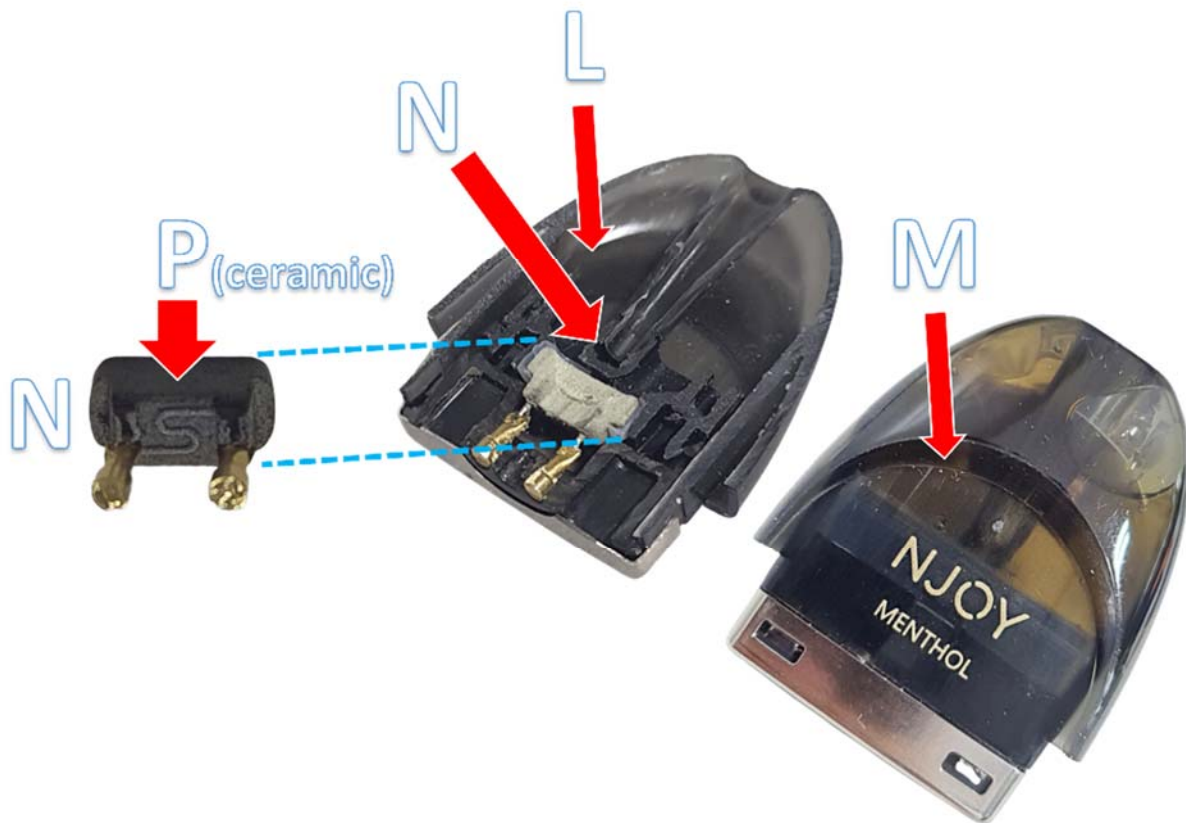
NJOY Ace Figure 11.

301. Claim 12 of the '864 Patent reads as follows:

12. The cartridge of claim 9, wherein the heating element includes a wicking material being operative to permit at least a portion of the solution to be held in the solution holding medium to be drawn toward the heating element to be vaporized.

302. As shown in the figure set forth in the following paragraph, the NJOY Ace meets every limitation recited in Claim 12 of the '864 Patent.

303. In the NJOY Ace, “the heating element [N] includes a wicking material [P] being operative to permit at least a portion of the solution [M] to be held in the solution holding medium [L] to be drawn toward the heating element [N] to be vaporized.”



NJOY Ace Figure 12.

304. Claim 13 of the '864 Patent reads as follows:

13. The cartridge of claim 9, wherein the first aperture proximate the first end is smaller than the second aperture proximate the second end.

305. As shown in the figure set forth in the following paragraph, the NJOY Ace meets every limitation recited in Claim 13 of the '864 Patent.

306. In the NJOY Ace, “the first aperture [H] proximate the first end [F] is smaller than the second aperture [I] proximate the second end [G].”



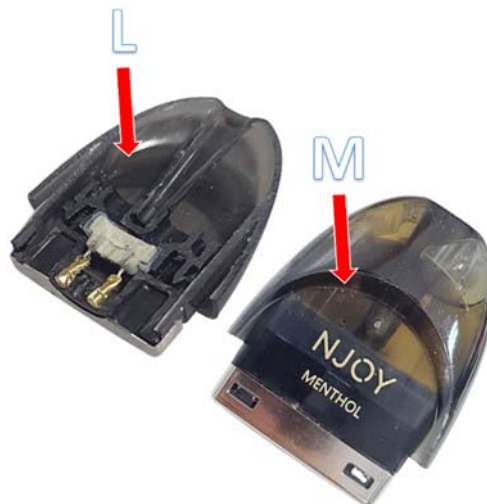
NJOY Ace Figure 13.

307. Claim 14 of the '864 Patent reads as follows:

14. The cartridge of claim 9, further comprising a solution in the solution holding medium, the solution comprising one of propylene glycol and nicotine.

308. As shown in the figures set forth in paragraphs 309 through 310, the NJOY Ace meets every limitation recited in Claim 14 of the '864 Patent.

309. The NJOY Ace has “a solution [M] in the solution holding medium [L].”



NJOY Ace Figure 14.a.

310. The NJOY Ace has a “solution [M] comprising one of propylene glycol and nicotine.”



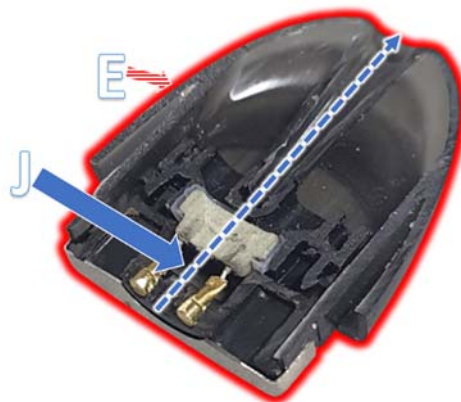
NJOY Ace Figure 14.b.

311. Claim 15 of the '864 Patent reads as follows:

15. The cartridge of claim 9, further comprising an airflow passageway in the housing, at least a portion of the airflow passageway extending centrally and axially with respect to the housing.

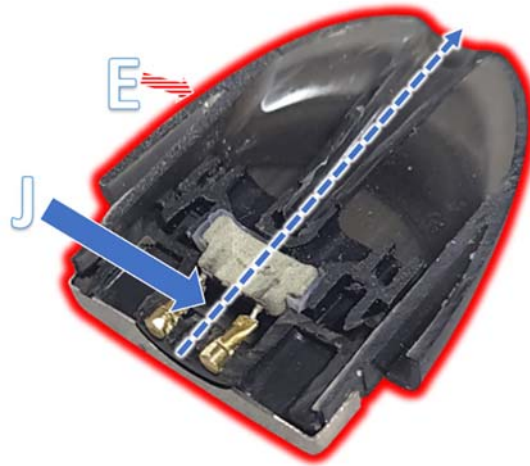
312. As shown in the figures set forth in paragraphs 313 through 314, the NJOY Ace meets every limitation recited in Claim 15 of the '864 Patent.

313. The NJOY Ace has “an airflow passageway [J] in the housing [E].”



NJOY Ace Figure 15.a.

314. The NJOY Ace has, “at least a portion of the airflow passageway [J] extending centrally and axially with respect to the housing [E].”



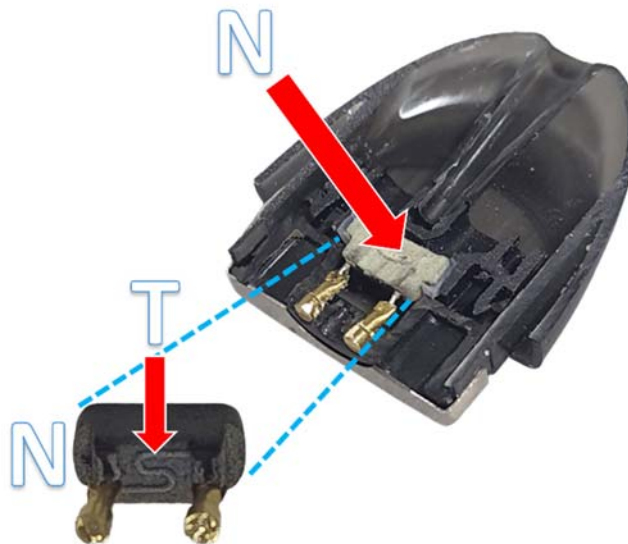
NJOY Ace Figure 15.b.

315. Claim 17 of the '864 Patent reads as follows:

17. The cartridge of claim 9, wherein the heating element includes a coil.

316. As shown in the figure set forth in in the following paragraph, the NJOY Ace meets every limitation recited in Claim 17 of the '864 Patent.

317. In the NJOY Ace, “the heating element [N] includes a coil [T].”



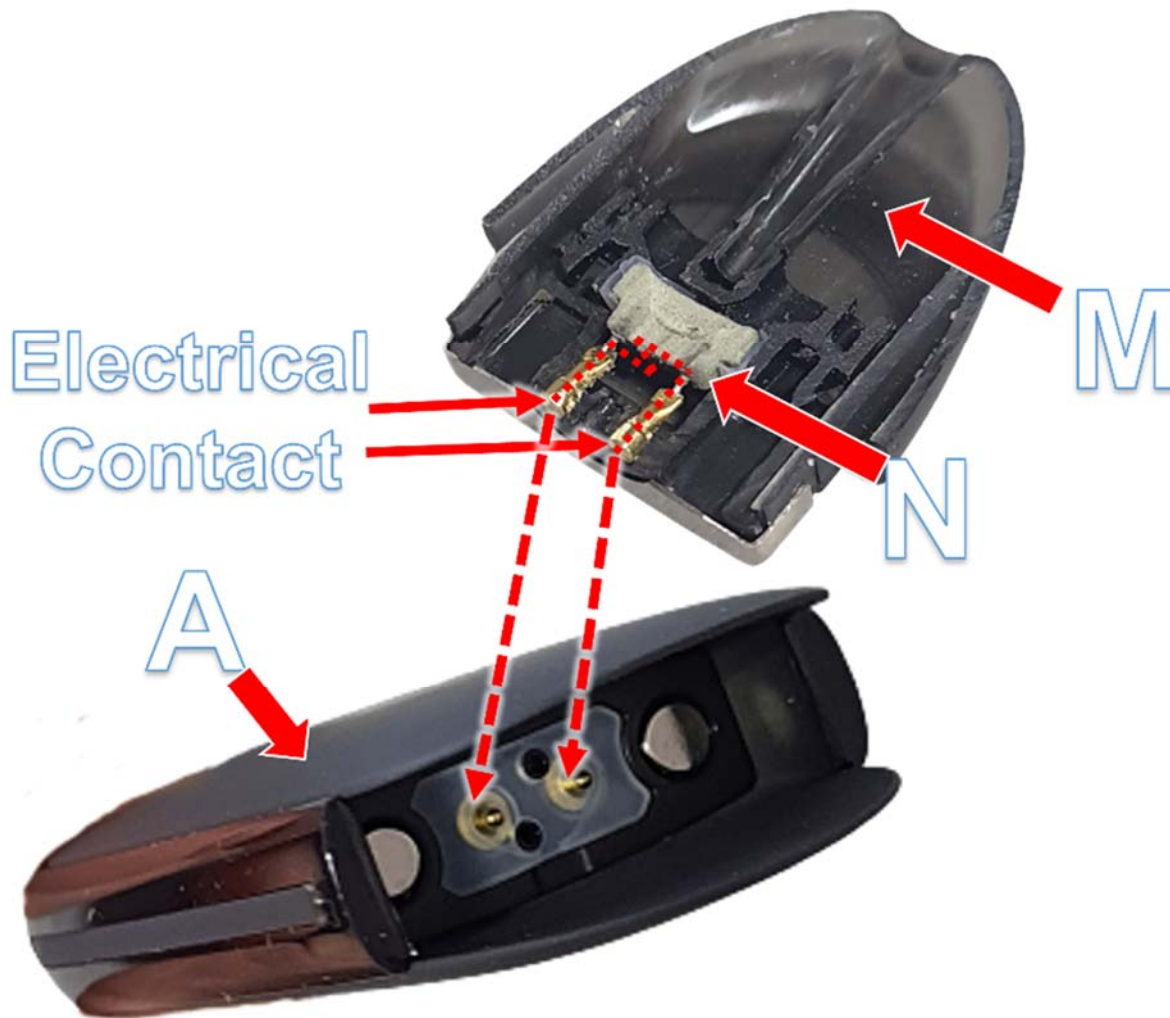
NJOY Ace Figure 17.

318. Claim 20 of the '864 Patent reads as follows:

20. The cartridge of claim 9, wherein the heating element includes a material that when powered by the power source is adapted to vaporize the solution brought into contact with the heating element.

319. As shown in the figure set forth in the following paragraph, the NJOY Ace meets every limitation recited in Claim 20 of the '864 Patent.

320. In the NJOY Ace, “the heating element [N] includes a material that when powered by the power source [A] is adapted to vaporize the solution [M] brought into contact with the heating element [N].”



NJOY Ace Figure 20.

321. Claim 21 of the '864 Patent reads as follows:

21. A cartridge configured to couple to a power source of an electronic vaporizer, the cartridge comprising:

- a housing having an interior and a solution holding medium adapted to hold a solution, the housing having a first end and a second end that is opposite the first end and a central longitudinal axis extending from the first end to the second end, the housing having a first aperture proximate the first end and a second aperture proximate the second end, the first end of the housing being adapted to electrically couple to the power source, the first aperture and the second aperture being in communication with one another to permit an airflow through the housing; and
- a heating element located in the interior of the housing, the heating element including a coil extending transversely to the central longitudinal axis of the housing and transversely to a direction of the airflow such that the airflow passes on both transverse sides of the heating element during use of the electronic vaporizer, the heating element being configured to vaporize at least the portion of the solution drawn to the heating element for oral provision to an individual in the airflow, the heating element being responsive to electrical power received from the power source; and
- an airflow passageway in the housing, at least a portion of the airflow passageway extending centrally and axially with respect to the housing,

wherein the airflow passageway extends centrally and axially from the first aperture to the second aperture.

322. As shown in the figures set forth in paragraphs 323 through 335, the NJOY Ace meets every limitation recited in Claim 21 of the '864 Patent.

323. To the extent that the preamble of Claim 21 is limiting, the NJOY Ace has a “cartridge [D] configured to couple to a power source [A] of an electronic vaporizer.”



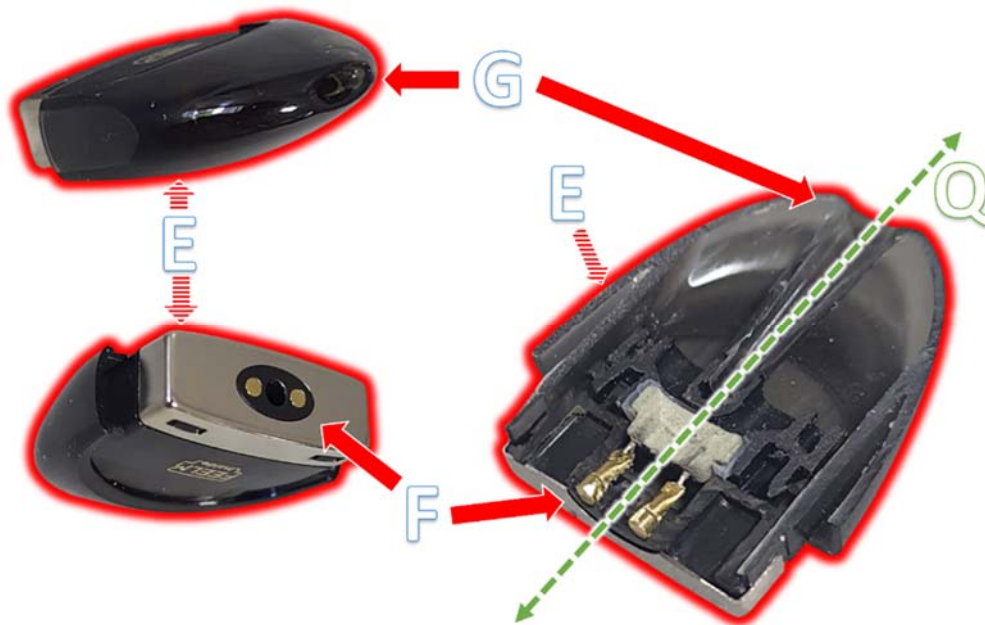
NJOY Ace Figure 21.pre.

324. The NJOY Ace has “a housing [E] having an interior and a solution holding medium [L] adapted to hold a solution [M].”



NJOY Ace Figure 21.a.

325. The NJOY Ace has a “housing [E] having a first end [F] and a second end [G] that is opposite the first end [F] and a central longitudinal axis [Q] extending from the first end [F] to the second end [G].”



NJOY Ace Figure 21.b.

326. The NJOY Ace has a “housing [E] having a first aperture [H] proximate the first end [F] and a second aperture [I] proximate the second end [G].”



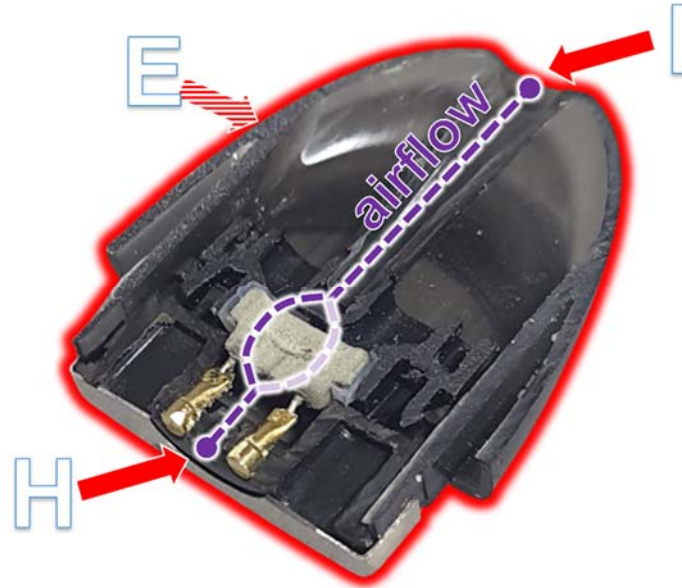
NJOY Ace Figure 21.c.

327. The NJOY Ace has a “first end [F] of the housing [E] being adapted to electrically couple to the power source [A].”



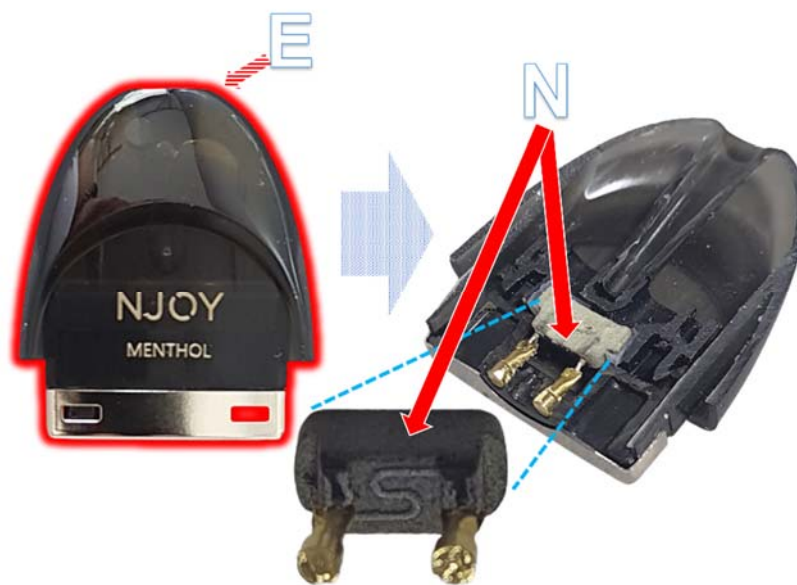
NJOY Ace Figure 21.d.

328. The NJOY Ace has a “first aperture [H] and the second aperture [I] being in communication with one another to permit an airflow through the housing [E].”



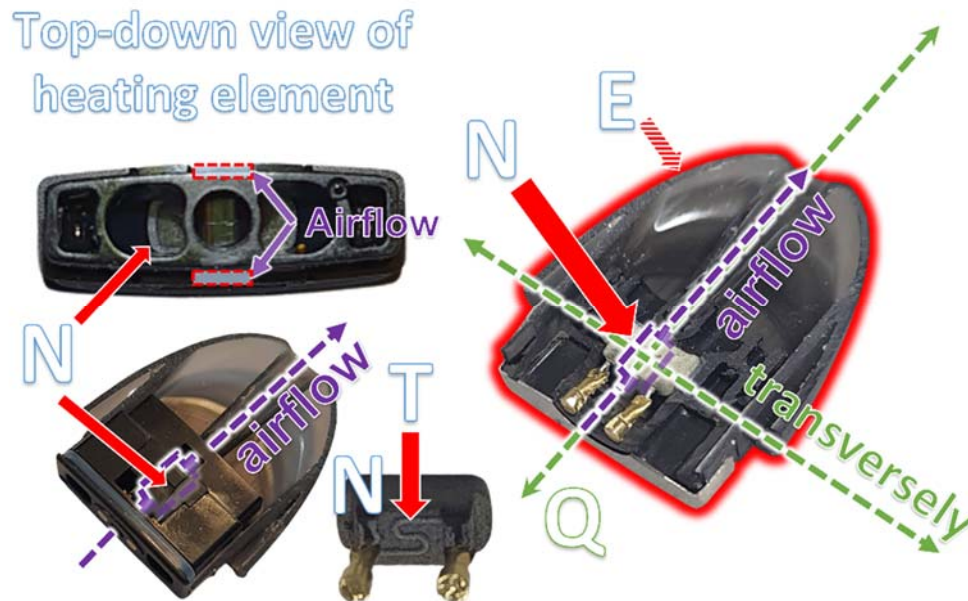
NJOY Ace Figure 21.e.

329. The NJOY Ace has “a heating element [N] located in the interior of the housing [E].”



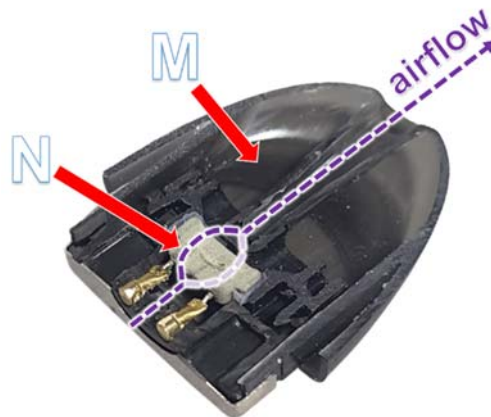
NJOY Ace Figure 21.f.

330. The NJOY Ace has a “heating element [N] including a coil [T] extending transversely to the central longitudinal axis [Q] of the housing [E] and transversely to a direction of the airflow such that the airflow passes on both transverse sides of the heating element [N] during use of the electronic vaporizer.”



NJOY Ace Figure 21.g.

331. The NJOY Ace has a “heating element [N] being configured to vaporize at least the portion of the solution [M] drawn to the heating element [N] for oral provision to an individual in the airflow.”



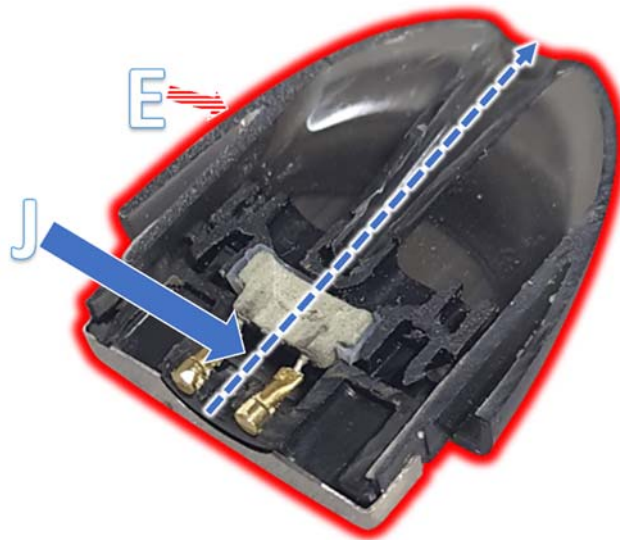
NJOY Ace Figure 21.h.

332. The NJOY Ace has a “heating element [N] being responsive to electrical power received from the power source [A].”



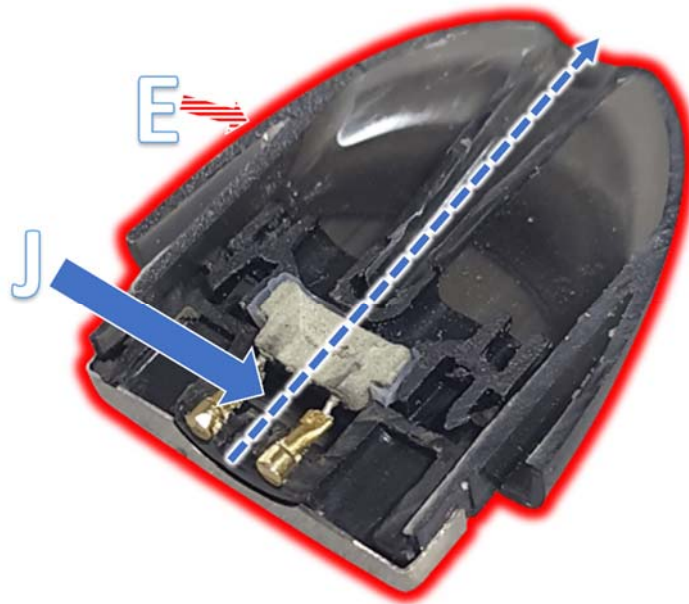
NJOY Ace Figure 21.i.

333. The NJOY Ace has “an airflow passageway [J] in the housing [E].”



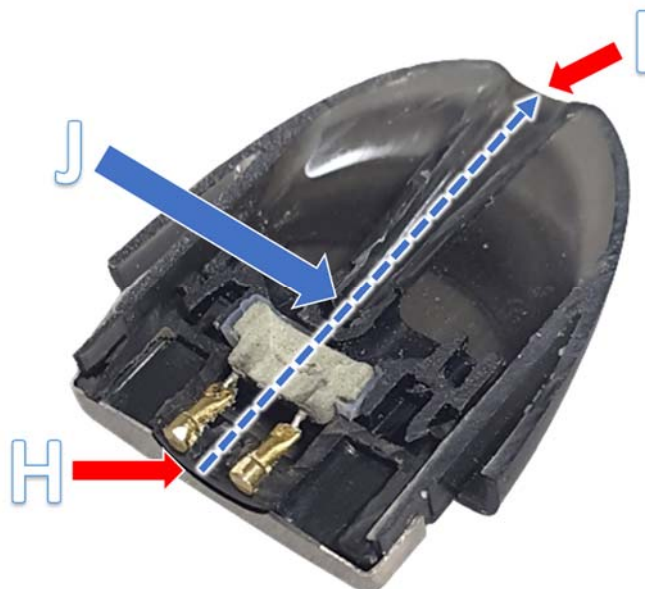
NJOY Ace Figure 21.j.

334. In the NJOY Ace “at least a portion of the airflow passageway [J] extending centrally and axially with respect to the housing [E].”



NJOY Ace Figure 21.k.

335. In the NJOY Ace, “the airflow passageway [J] extends centrally and axially from the first aperture [H] to the second aperture [I].”



NJOY Ace Figure 21.l.

336. Claim 22 of the '864 Patent reads as follows:

22. The cartridge of claim 21, further in combination with a power source adapted to be electrically coupled to the first end of the housing, the power source including a battery.

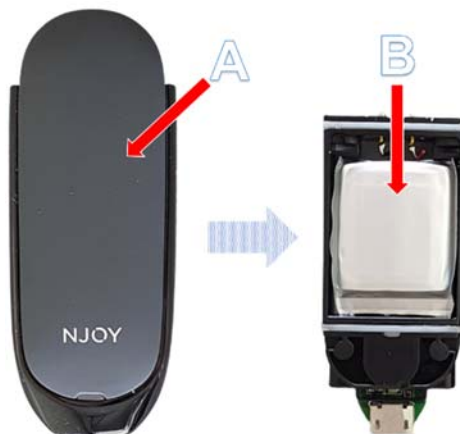
337. As shown in the figures set forth in paragraphs 338 through 339, the NJOY Ace meets every limitation recited in Claim 22 of the '864 Patent.

338. The NJOY Ace has “a power source [A] adapted to be electrically coupled to the first end [F] of the housing [E].”



NJOY Ace Figure 22.a.

339. The NJOY Ace has a “power source [A] including a battery [B].”



NJOY Ace Figure 22.b.

340. Claim 25 of the '864 Patent reads as follows:

25. A cartridge configured to couple to a power source of an electronic vaporizer, the cartridge comprising:

- a housing having an interior and a solution holding medium adapted to hold a solution, the housing having a first end and a second end that is opposite the first end and a central longitudinal axis extending from the first end to the second end, the housing having a first aperture proximate the first end and a second aperture proximate the second end, the first end of the housing being adapted to electrically couple to the power source, the first aperture and the second aperture being in communication with one another to permit an airflow through the housing; and
- a heating element located in the interior of the housing, the heating element including a coil extending transversely to the central longitudinal axis of the housing and transversely to a direction of the airflow such that the airflow passes on both transverse sides of the heating element during use of the electronic vaporizer, the heating element being configured to vaporize at least the portion of the solution drawn to the heating element for oral provision to an individual in the airflow, the heating element being responsive to electrical power received from the power source; and

an airflow passageway in the housing, at least a portion of the airflow passageway extending centrally and axially with respect to the housing,

wherein the airflow passageway extends in a straight path from the first aperture to the second aperture with only the heating element obstructing a portion of the airflow through the airflow passageway along the central longitudinal axis of the housing.

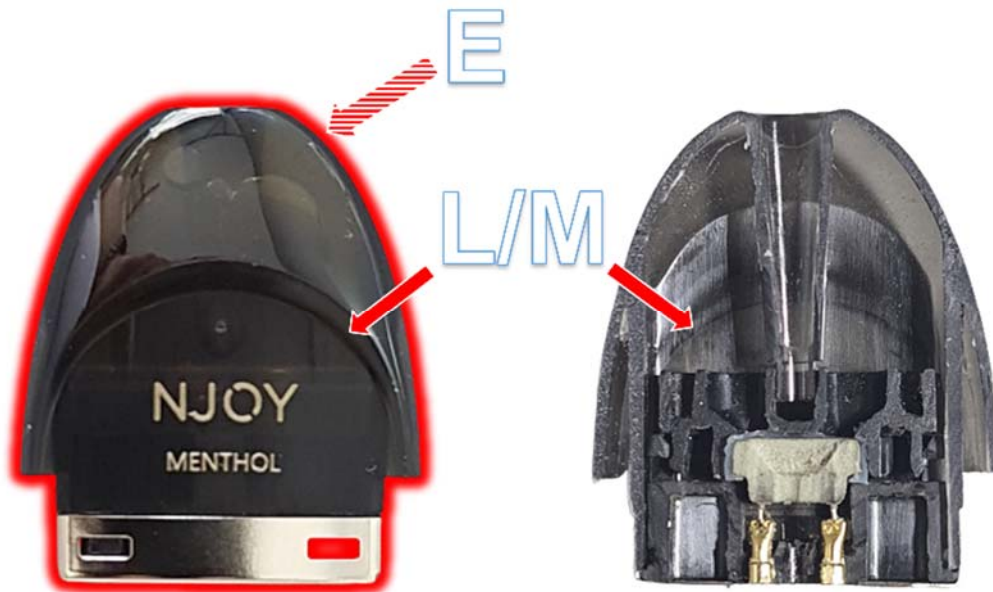
341. As shown in the figures set forth in paragraphs 342 through 354, the NJOY Ace meets every limitation recited in Claim 25 of the '864 Patent.

342. To the extent that the preamble of Claim 25 is limiting, the NJOY Ace has a “cartridge [D] configured to couple to a power source [A] of an electronic vaporizer.”



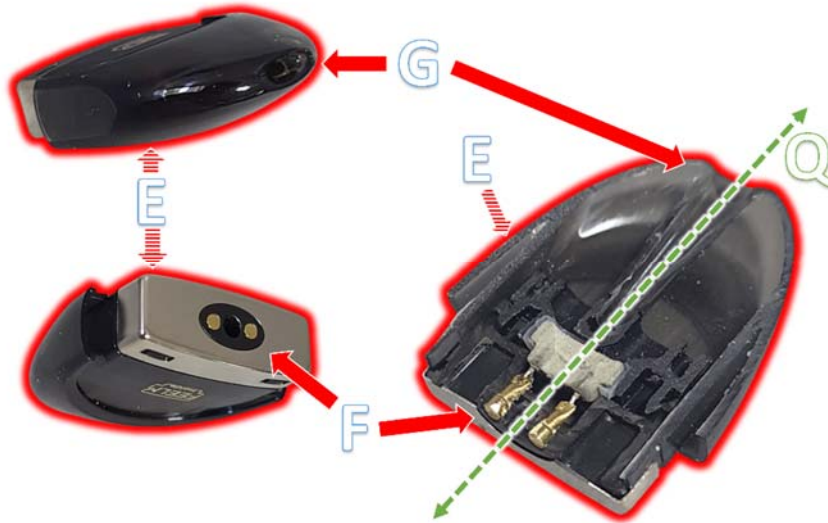
NJOY Ace Figure 25.pre.

343. The NJOY Ace has “a housing [E] having an interior and a solution holding medium [L] adapted to hold a solution [M].”



NJOY Ace Figure 25.a.

344. The NJOY Ace has a “housing [E] having a first end [G] and a second end [G] that is opposite the first end [F] and a central longitudinal axis [Q] extending from the first end [F] to the second end [G].”



NJOY Ace Figure 25.b.

345. The NJOY Ace has a “housing [E] having a first aperture [H] proximate the first end [F] and a second aperture [I] proximate the second end [G].”



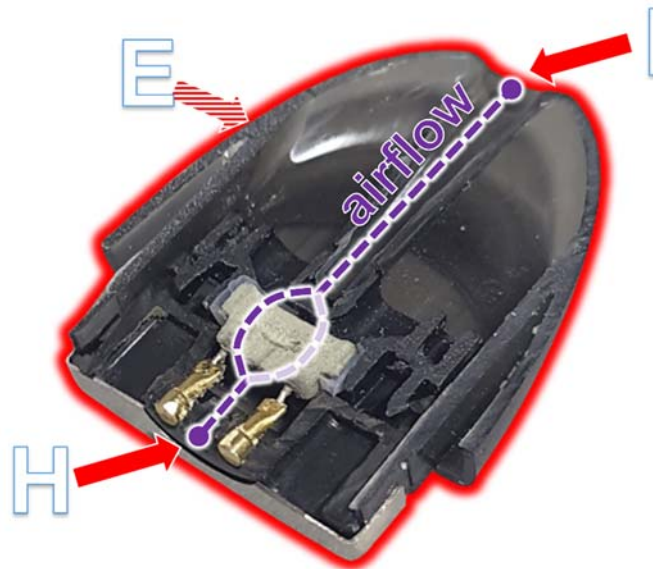
NJOY Ace Figure 25.c.

346. The NJOY Ace has a “first end [F] of the housing [E] being adapted to electrically couple to the power source [A].”



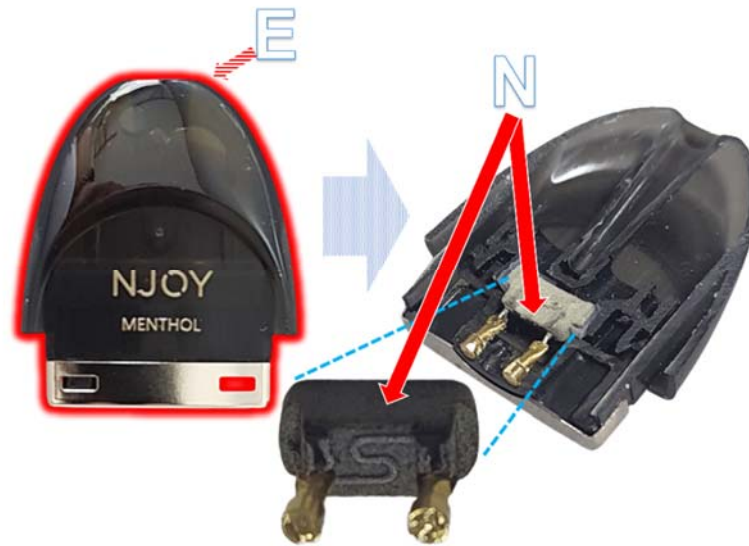
NJOY Ace Figure 25.d.

347. The NJOY Ace has a “first aperture [H] and the second aperture [I] being in communication with one another to permit an airflow through the housing [E].”



NJOY Ace Figure 25.e.

348. The NJOY Ace has “a heating element [N] located in the interior of the housing [E].” [E].”



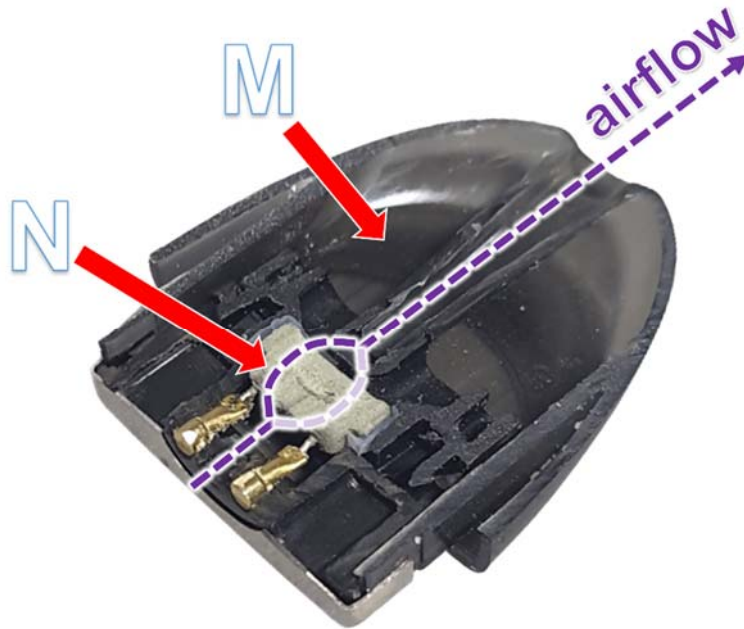
NJOY Ace Figure 25.f.

349. The NJOY Ace has a “heating element [N] including a coil [T] extending transversely to the central longitudinal axis [Q] of the housing [E] and transversely to a direction of the airflow such that the airflow passes on both transverse sides of the heating element [N] during use of the electronic vaporizer.”



NJOY Ace Figure 25.g.

350. The NJOY Ace has a “heating element [N] being configured to vaporize at least the portion of the solution [M] drawn to the heating element [N] for oral provision to an individual in the airflow.”



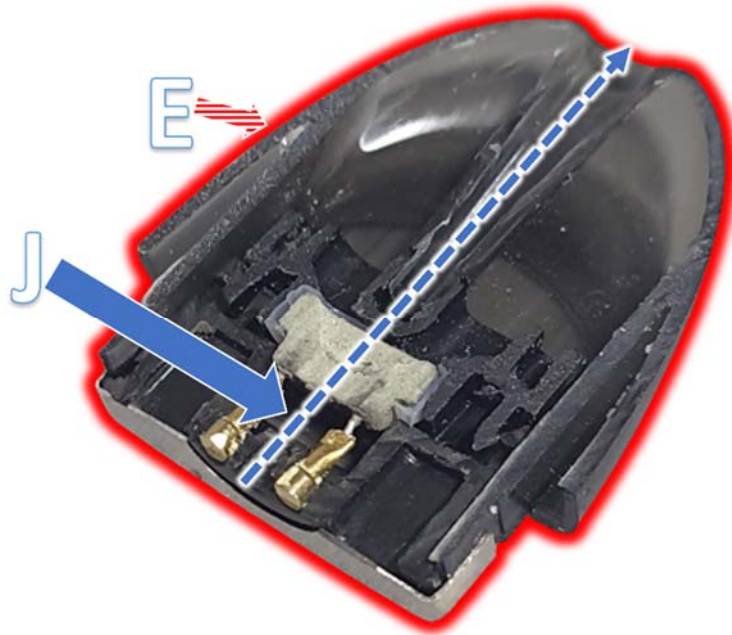
NJOY Ace Figure 25.h.

351. The NJOY Ace has a “heating element [N] being responsive to electrical power received from the power source [A].”



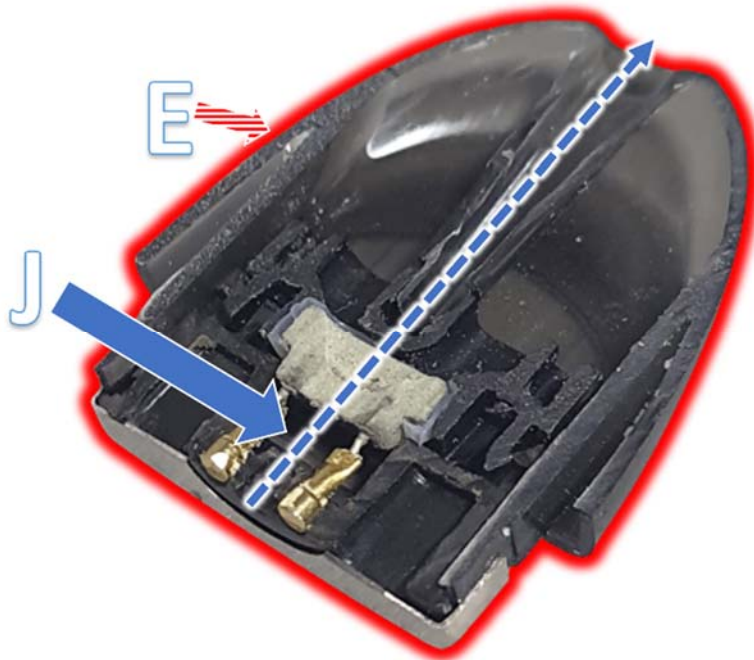
NJOY Ace Figure 25.i.

352. The NJOY Ace has “an airflow passageway [J] in the housing [E].”



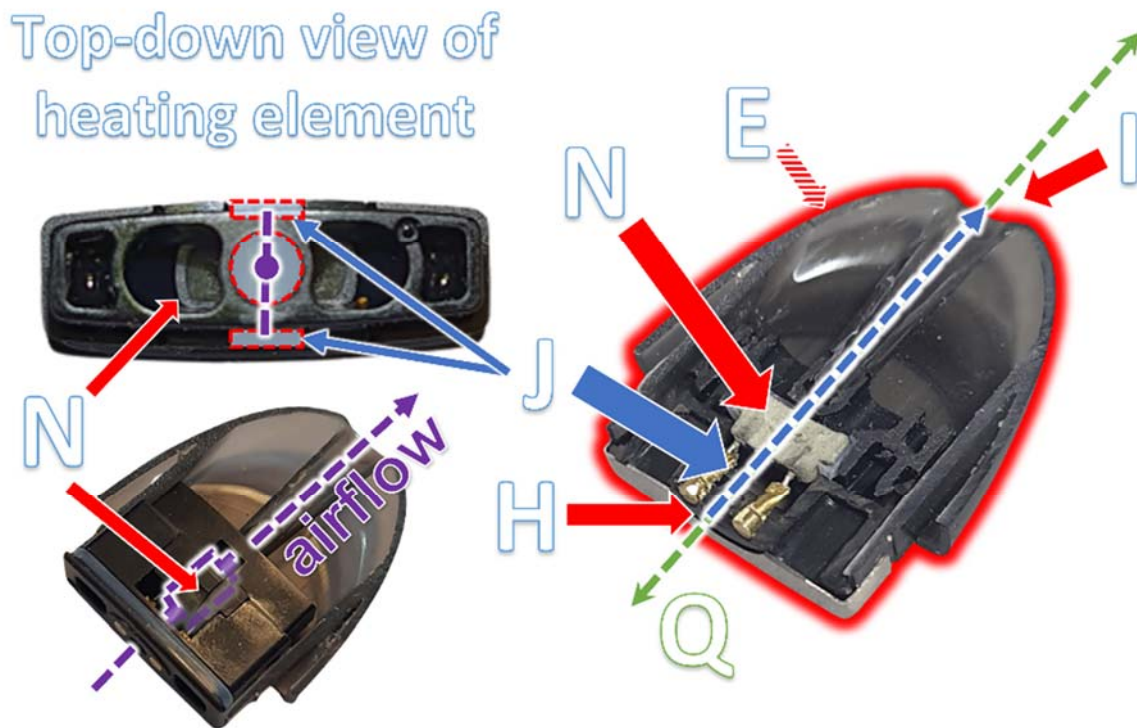
NJOY Ace Figure 25.j.

353. In the NJOY Ace “at least a portion of the airflow passageway [J] extending centrally and axially with respect to the housing [E].”



NJOY Ace Figure 25.k.

354. In the NJOY Ace, “the airflow passageway [J] extends in a straight path from the first aperture [H] to the second aperture [I] with only the heating element [N] obstructing a portion of the airflow through the airflow passageway [J] along the central longitudinal axis [Q] of the housing [E].”



NJOY Ace Figure 25.1

355. Claim 26 of the '864 Patent reads as follows:

26. The cartridge of claim 25, further in combination with a power source adapted to be electrically coupled to the first end of the housing, the power source including a battery.

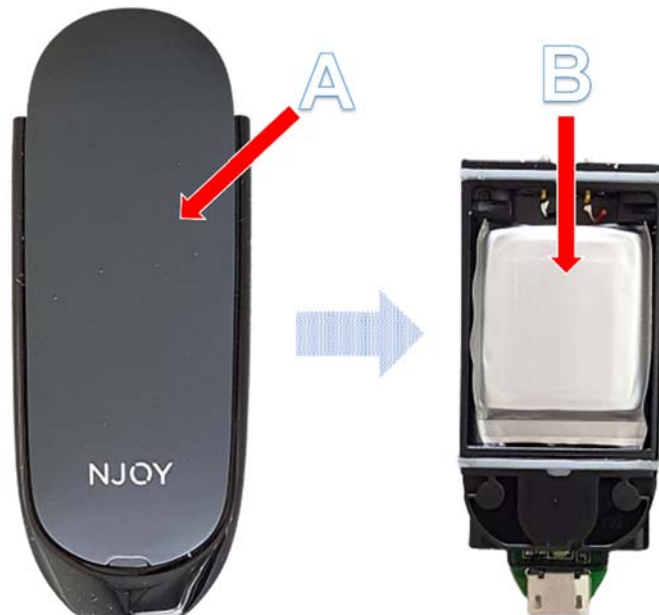
356. As shown in the figures set forth in paragraphs 357 through 358, the NJOY Ace meets every limitation recited in Claim 26 of the '864 Patent.

357. The NJOY Ace has “a power source [A] adapted to be electrically coupled to the first end [F] of the housing [E].”



NJOY Ace Figure 26.a.

358. The NJOY Ace has a “power source [A] including a battery [B].”



NJOY Ace Figure 26.b.

359. Claim 29 of the '864 Patent reads as follows:

29. A cartridge configured to couple to a power source of an electronic vaporizer, the cartridge comprising:
a housing having an interior and a solution holding medium adapted to hold a solution, the housing having a first end and a second end that is opposite the first end and a central longitudinal axis extending from the first end to the second end, the housing having a first aperture proximate the first end and a second aperture proximate the second end, the first end of the housing being adapted to electrically couple to the power source, the first aperture and the second aperture being in communication with one another to permit an airflow through the housing; and
a heating element located in the interior of the housing, the heating element including a coil extending transversely to the central longitudinal axis of the housing and transversely to a direction of the airflow such that the airflow passes on both transverse sides of the heating element during use of the electronic vaporizer, the heating element being configured to vaporize at least the portion of the solution drawn to the heating element for oral provision to an individual in the airflow, the heating element being responsive to electrical power received from the power source,
wherein the airflow through the housing follows an airflow path, a first portion of the airflow path proximate the first aperture being defined substantially centrally and axially with respect to the central longitudinal axis of the housing, and a second portion of the airflow path proximate to the second aperture being defined substantially centrally and axially with respect to the central longitudinal axis of the housing.

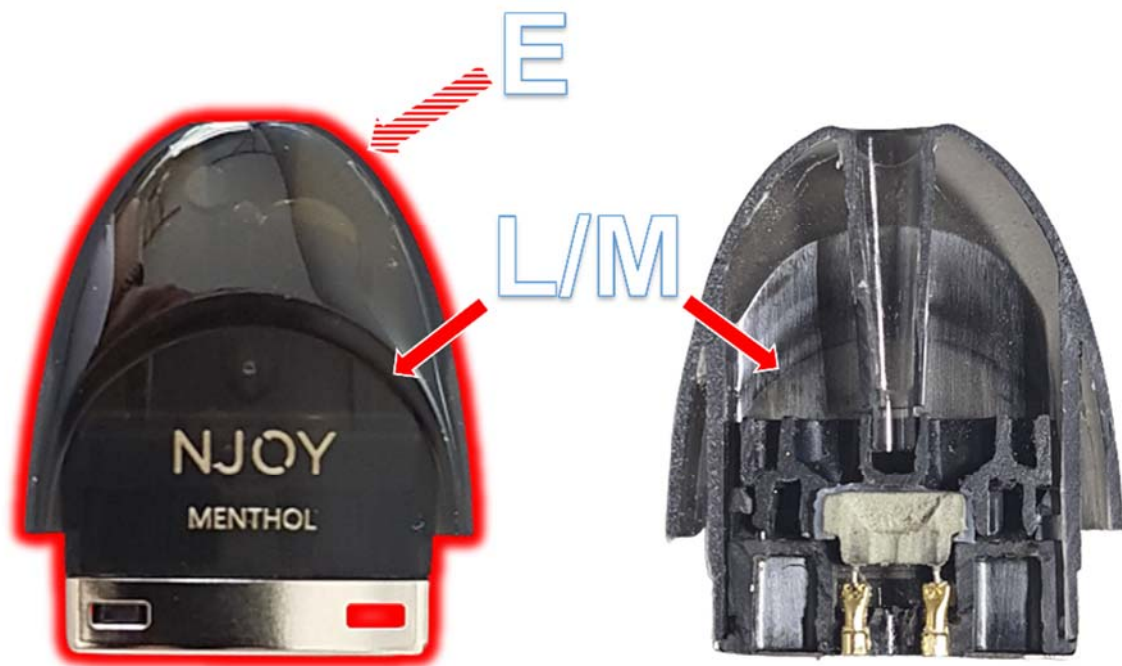
360. As shown in the figures set forth in paragraphs 361 through 373, the NJOY Ace meets every limitation recited in Claim 29 of the '864 Patent.

361. To the extent that the preamble of Claim 29 is limiting, the NJOY Ace has a “cartridge [D] configured to couple to a power source [A] of an electronic vaporizer.”



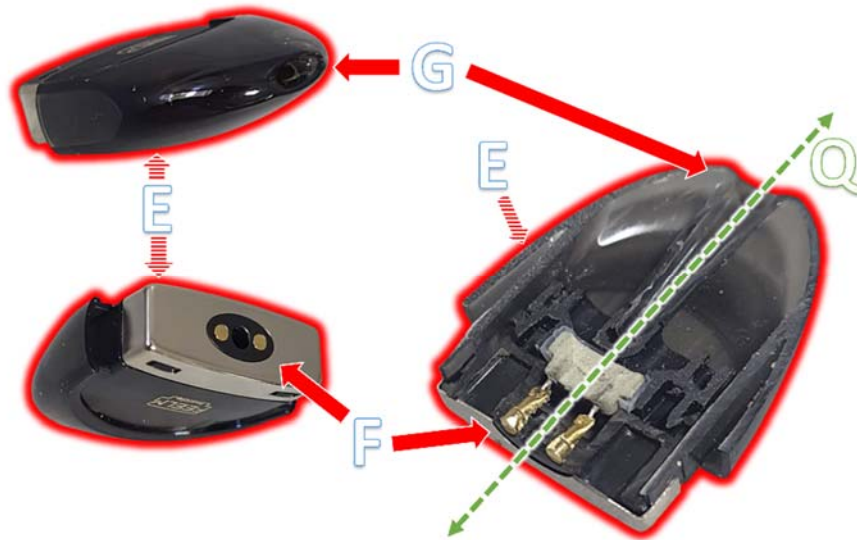
NJOY Ace Figure 29.pre.

362. The NJOY Ace has “a housing [E] having an interior and a solution holding medium [L] adapted to hold a solution [M].”



NJOY Ace Figure 29.a.

363. The NJOY Ace has a “housing [E] having a first end [F] and a second end [G] that is opposite the first end [F] and a central longitudinal axis [Q] extending from the first end [F] to the second end [G].”



NJOY Ace Figure 29.b.

364. The NJOY Ace has a “housing [E] having a first aperture [H] proximate the first end [F] and a second aperture [I] proximate the second end [G].”



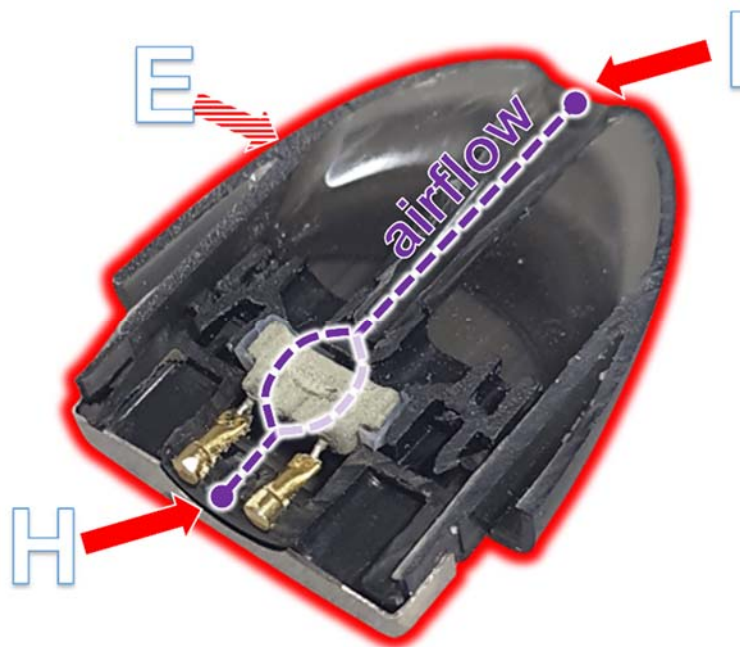
NJOY Ace Figure 29.c.

365. The NJOY Ace has a “first end [F] of the housing [E] being adapted to electrically couple to the power source [A].”



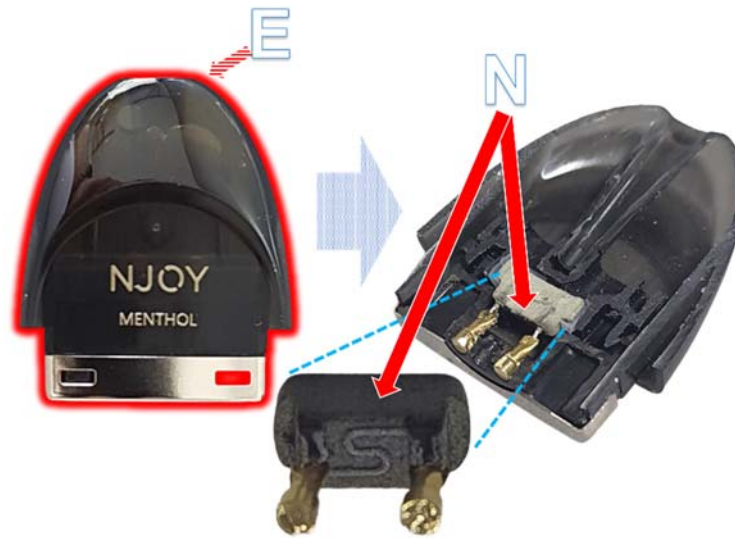
NJOY Ace Figure 29.d.

366. The NJOY Ace has a “first aperture [H] and the second aperture [I] being in communication with one another to permit an airflow through the housing [E].”



NJOY Ace Figure 29.e.

367. The NJOY Ace has “a heating element [N] located in the interior of the housing [E].”



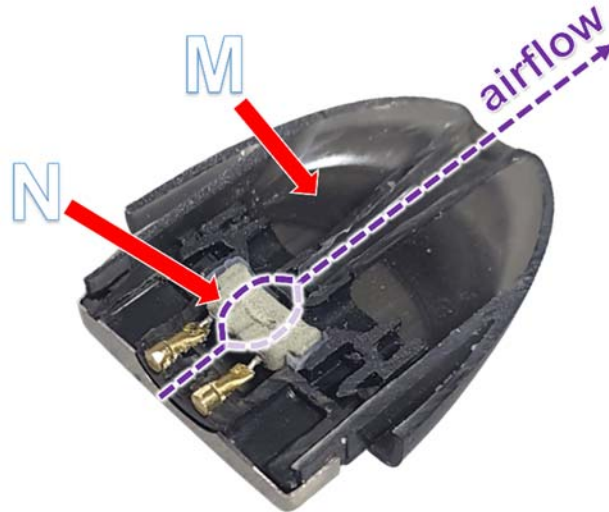
NJOY Ace Figure 29.f.

368. The NJOY Ace has a “heating element [N] including a coil [T] extending transversely to the central longitudinal axis [Q] of the housing [E] and transversely to a direction of the airflow such that the airflow passes on both transverse sides of the heating element [N] during use of the electronic vaporizer.”



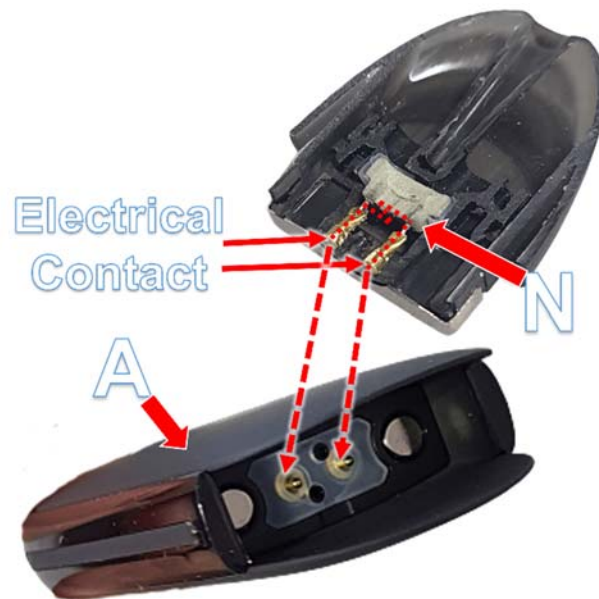
NJOY Ace Figure 29.g.

369. The NJOY Ace has a “heating element [N] being configured to vaporize at least the portion of the solution [M] drawn to the heating element [N] for oral provision to an individual in the airflow.”



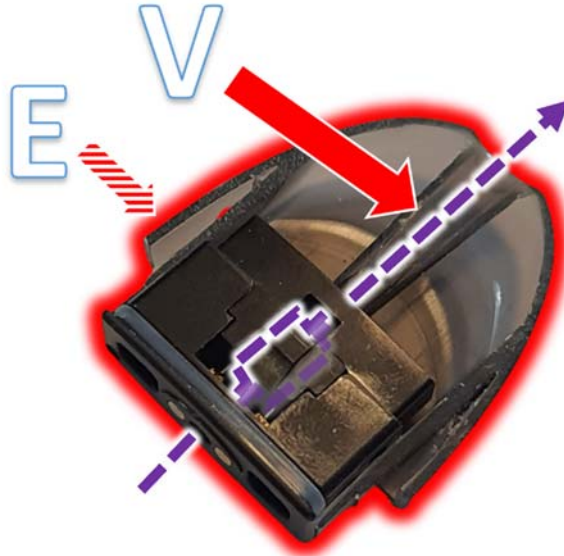
NJOY Ace Figure 29.h.

370. The NJOY Ace has a “heating element [N] being responsive to electrical power received from the power source [A].”



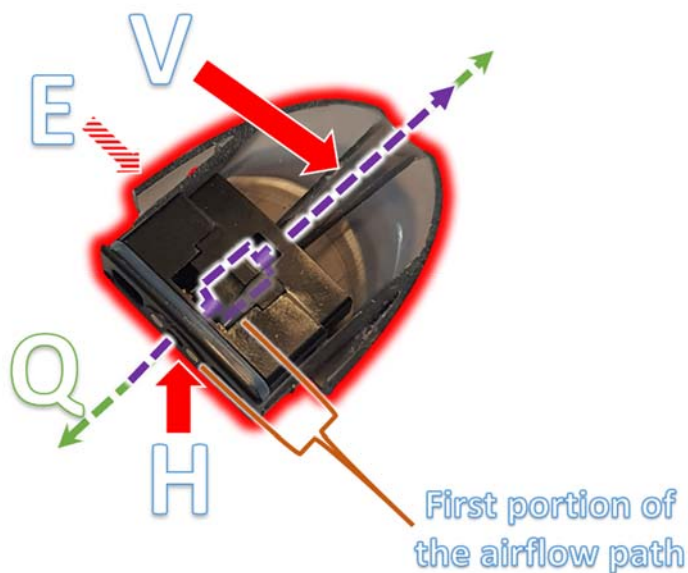
NJOY Ace Figure 29.i.

371. In the NJOY Ace, “the airflow through the housing [E] follows an airflow path [V].”



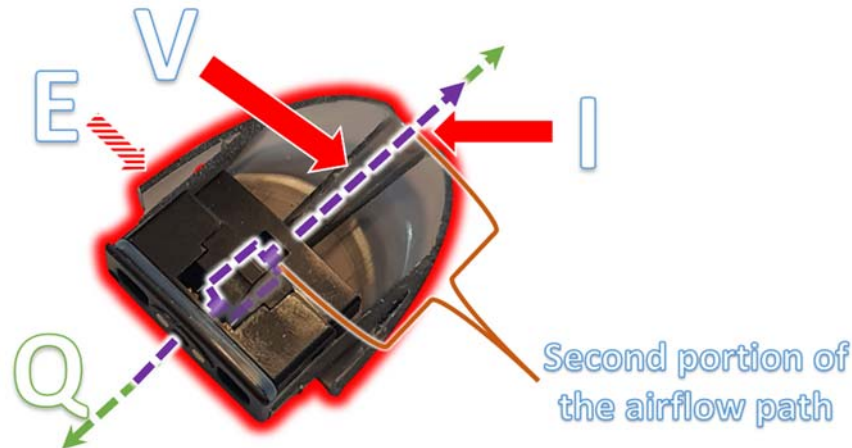
NJOY Ace Figure 29.j.

372. The NJOY Ace has “a first portion of the airflow path [V] proximate the first aperture [H] being defined substantially centrally and axially with respect to the central longitudinal axis [Q] of the housing [E].”



NJOY Ace Figure 29.k.

373. The NJOY Ace has “a second portion of the airflow path [V] proximate to the second aperture [I] being defined substantially centrally and axially with respect to the central longitudinal axis [Q] of the housing [E].”



NJOY Ace Figure 29.1.

374. Claim 30 of the '864 Patent reads as follows:

30. The cartridge of claim 29, further in combination with a power source adapted to be electrically coupled to the first end of the housing, the power source including a battery.

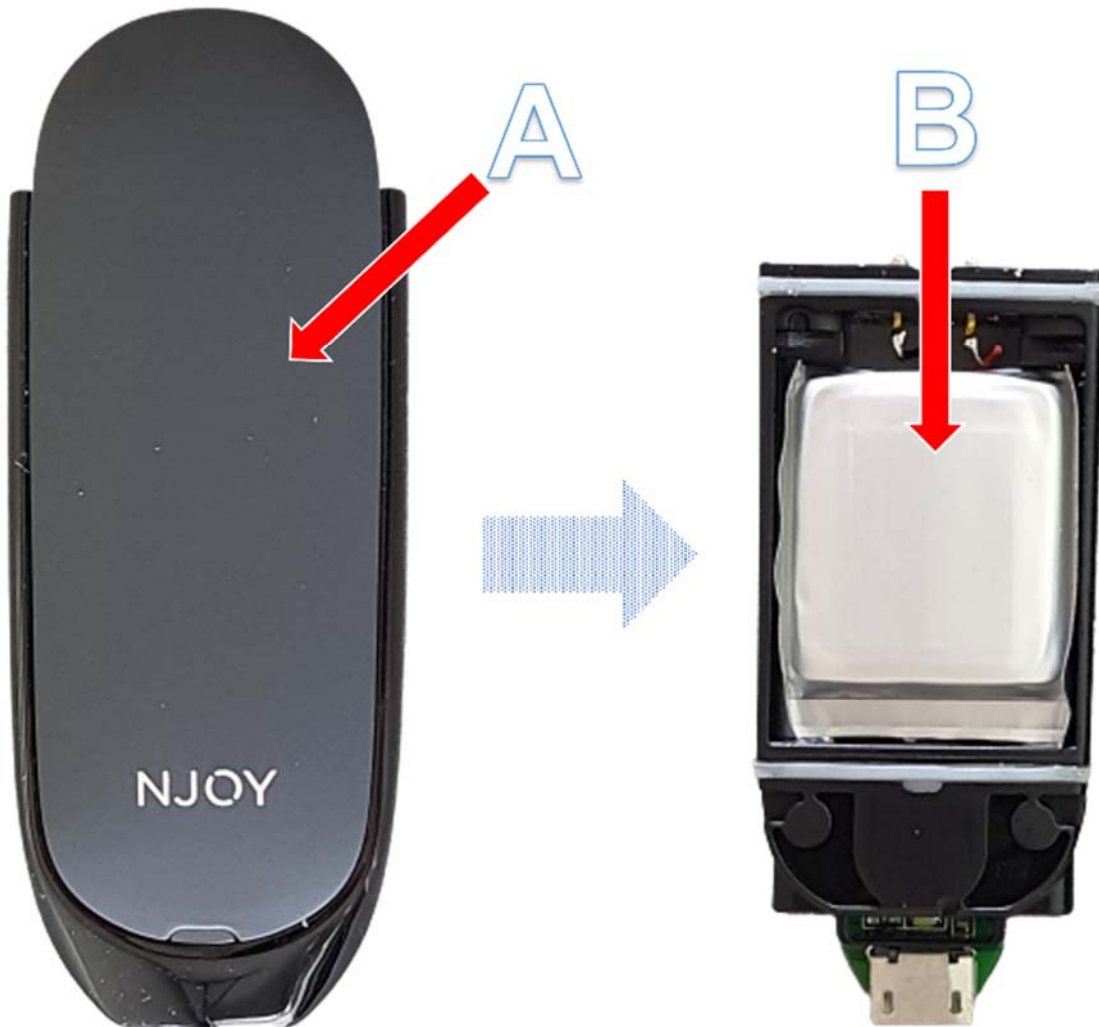
375. As shown in the figures set forth in paragraphs 376 through 377, the NJOY Ace meets every limitation recited in Claim 30 of the '864 Patent.

376. The NJOY Ace has “a power source [A] adapted to be electrically coupled to the first end [F] of the housing [E].”



NJOY Ace Figure 30.a.

377. The NJOY Ace has a “power source [A] including a battery [B].”



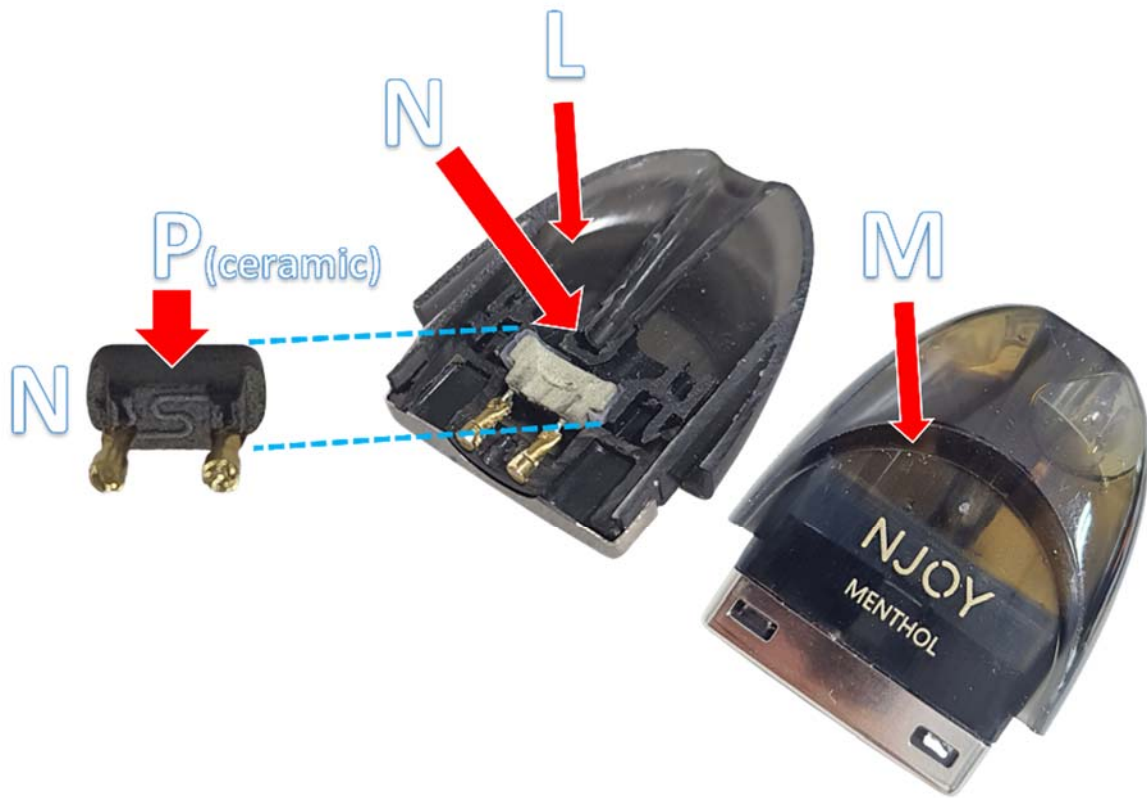
NJOY Ace Figure 30.b.

378. Claim 31 of the '864 Patent reads as follows:

31. The cartridge of claim 29, wherein the heating element includes a wicking material being operative to permit at least a portion of the solution to be held in the solution holding medium to be drawn toward the heating element to be vaporized.

379. As shown in the figure set forth in the following paragraph, the NJOY Ace meets every limitation recited in Claim 31 of the '864 Patent.

380. In the NJOY Ace “the heating element [N] includes a wicking material [P] being operative to permit at least a portion of the solution [M] to be held in the solution holding medium [L] to be drawn toward the heating element [N] to be vaporized.”



NJOY Ace Figure 31.

381. Claim 32 of the '864 Patent reads as follows:

32. The cartridge of claim 29, wherein the first aperture proximate the first end is smaller than the second aperture proximate the second end.

382. As shown in the figure set forth in the following paragraph, the NJOY Ace meets every limitation recited in Claim 32 of the '864 Patent.

383. In the NJOY Ace “the first aperture [H] proximate the first end [F] is smaller than the second aperture [I] proximate the second end [G].”



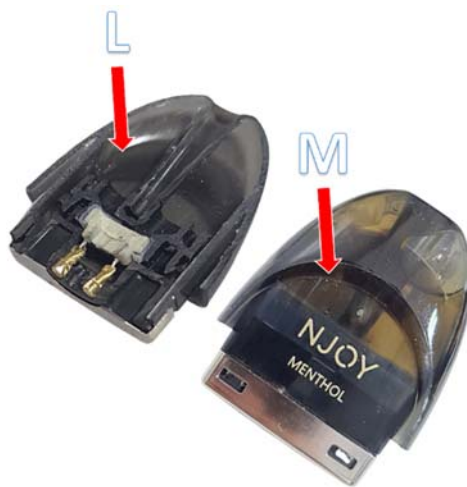
NJOY Ace Figure 32.

384. Claim 33 of the '864 Patent reads as follows:

33. The cartridge of claim 29, further comprising a solution in the solution holding medium, the solution comprising one of propylene glycol and nicotine.

385. As shown in the figures set forth in paragraphs 386 through 387, the NJOY Ace meets every limitation recited in Claim 33 of the '864 Patent.

386. The NJOY Ace has “a solution [M] in the solution holding medium [L].”



NJOY Ace Figure 33.a.

387. The NJOY Ace has a “solution [M] comprising one of propylene glycol and nicotine.”



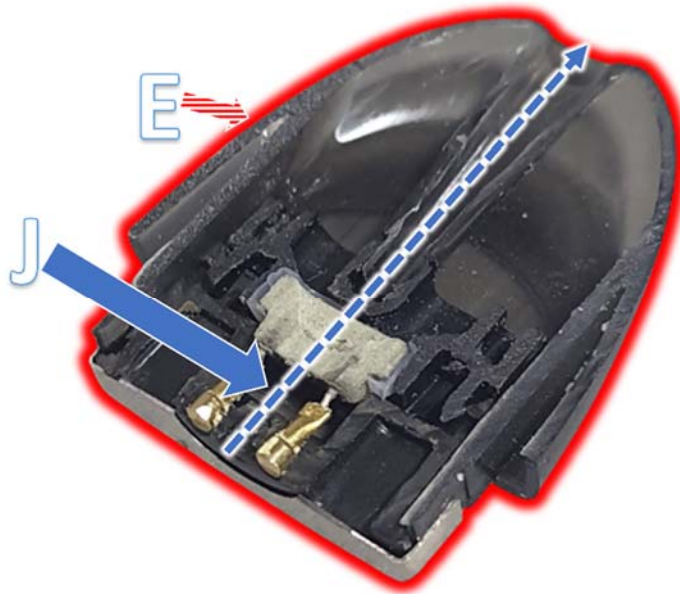
NJOY Ace Figure 33.b.

388. Claim 34 of the '864 Patent reads as follows:

34. The cartridge of claim 29, further comprising an airflow passageway in the housing, at least a portion of the airflow passageway extending centrally and axially with respect to the housing.

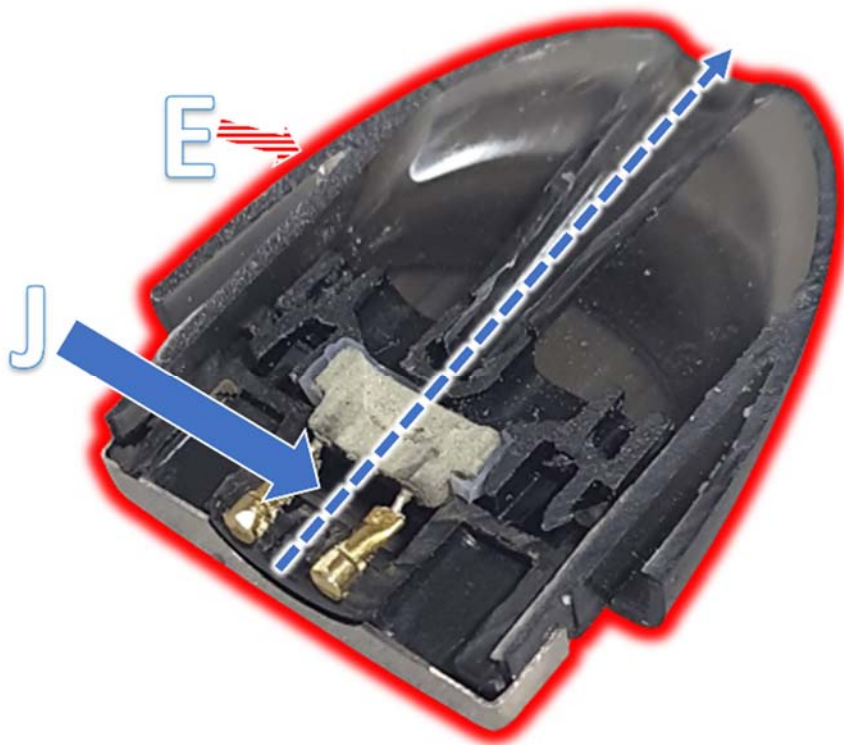
389. As shown in the figures set forth in paragraphs 390 through 391, the NJOY Ace meets every limitation recited in Claim 34 of the '864 Patent.

390. The NJOY Ace has “an airflow passageway [J] in the housing [E].”



NJOY Ace Figure 34.a

391. In the NJOY Ace “at least a portion of the airflow passageway [J] extending centrally and axially with respect to the housing [E].”



NJOY Ace Figure 34.b

392. Claim 38 of the '864 Patent reads as follows:

38. A cartridge configured to couple to a power source of an electronic vaporizer, the cartridge comprising:

- a housing having an interior and a solution holding medium adapted to hold a solution, the housing having a first end and a second end that is opposite the first end and a central longitudinal axis extending from the first end to the second end, the housing having a first aperture proximate the first end and a second aperture proximate the second end, the first end of the housing being adapted to electrically couple to the power source, the first aperture and the second aperture being in communication with one another to permit an airflow through the housing; and
- a heating element located in the interior of the housing, the heating element extending transversely to the central longitudinal axis of the housing and being at least partially exposed to the airflow such that the airflow entering through the first aperture will separate and then pass on both transverse sides of the heating element and then continue along an airflow path coaxial with the central longitudinal axis of the housing toward the second aperture during use of the electronic vaporizer, the heating element being configured to vaporize at least the portion of the solution for oral provision to an individual in the airflow, the heating element being responsive to electrical power received from the power source; and

an airflow passageway in the housing, at least a portion of the airflow passageway extending centrally and axially with respect to the housing,

wherein the airflow passageway extends centrally and axially from the first aperture to the second aperture.

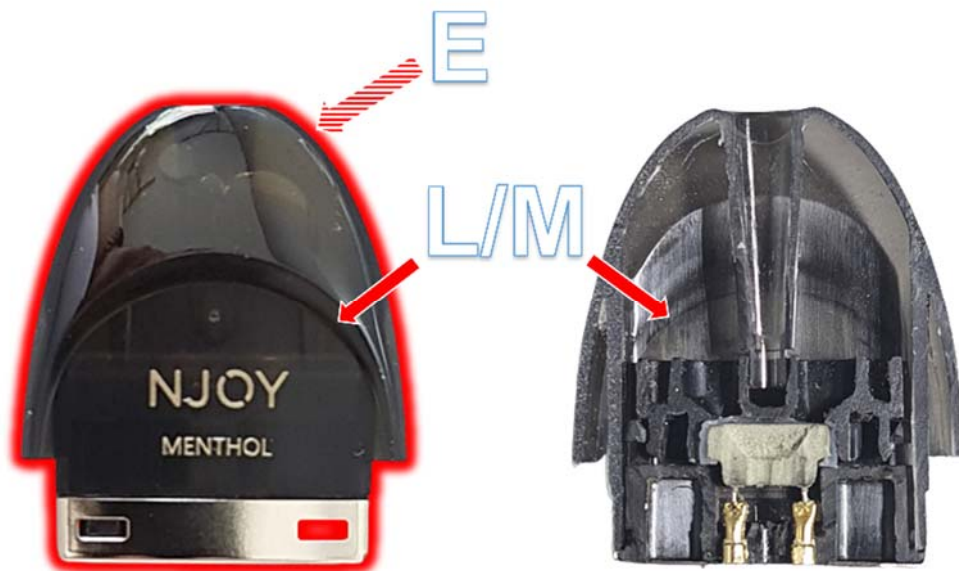
393. As shown in the figures set forth in paragraphs 394 through 406, the NJOY Ace meets every limitation recited in Claim 38 of the '864 Patent.

394. To the extent that the preamble is of Claim 38 is limiting, the NJOY Ace has a “cartridge [D] configured to couple to a power source [A] of an electronic vaporizer.”



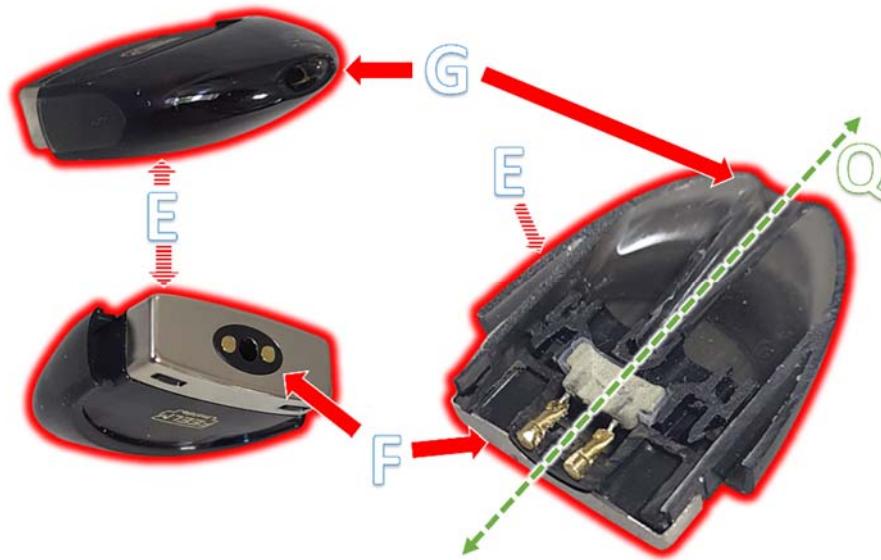
NJOY Ace Figure 38.pre.

395. The NJOY Ace has “a housing [E] having an interior and a solution holding medium [L] adapted to hold a solution [M].”



NJOY Ace Figure 38.a.

396. The NJOY Ace has “the housing [E] having a first end [F] and a second end [G] that is opposite the first end [F] and a central longitudinal axis [Q] extending from the first end [F] to the second end [G].”



NJOY Ace Figure 38.b.

397. The NJOY Ace has “the housing [E] having a first aperture [H] proximate the first end [F] and a second aperture [I] proximate the second end [G].”



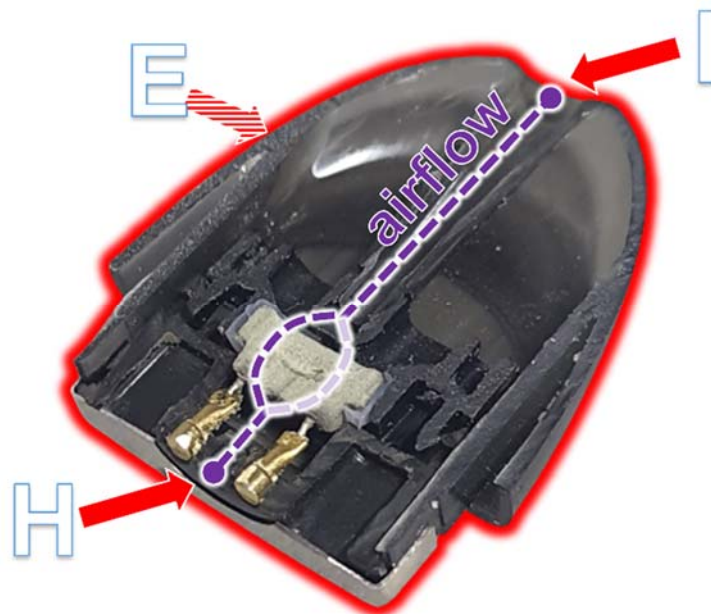
NJOY Ace Figure 38.c.

398. The NJOY Ace has “the first end [F] of the housing [E] being adapted to electrically couple to the power source [A].”



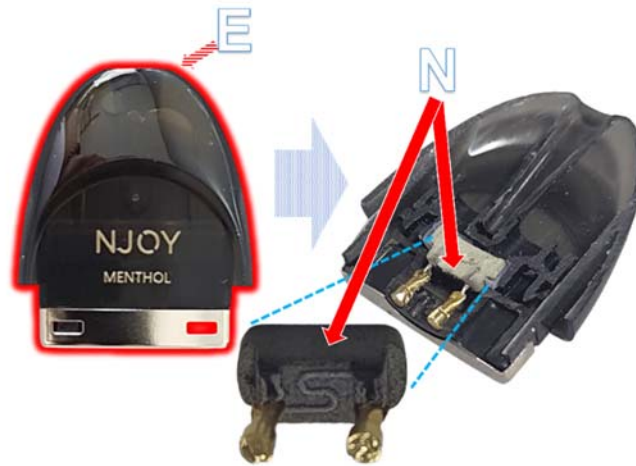
NJOY Ace Figure 38.d.

399. The NJOY Ace has “the first aperture [H] and the second aperture [I] being in communication with one another to permit an airflow through the housing [E].”



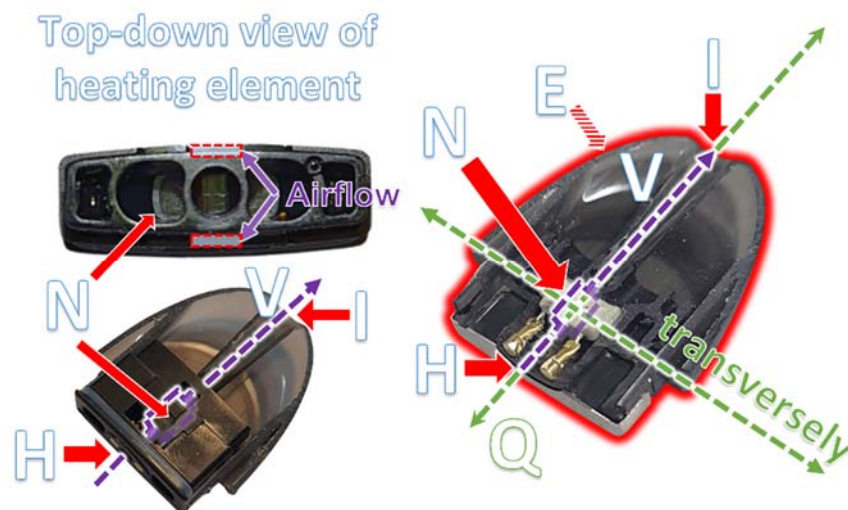
NJOY Ace Figure 38.e.

400. The NJOY Ace has “a heating element [N] located in the interior of the housing [E].”



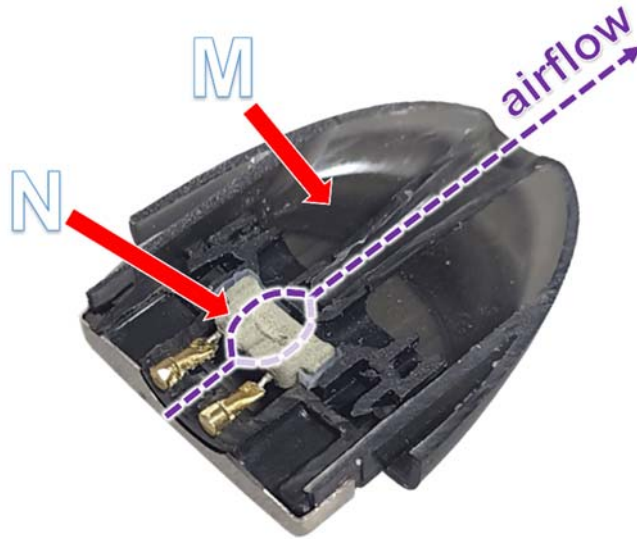
NJOY Ace Figure 38.f.

401. The NJOY Ace has a “heating element [N] extending transversely to the central longitudinal axis [Q] of the housing [E] and being at least partially exposed to the airflow such that the airflow entering through the first aperture [H] will separate and then pass on both transverse sides of the heating element [N] and then continue along an airflow path [V] co-axial with the central longitudinal axis [Q] of the housing [E] toward the second aperture [I] during use of the electronic vaporizer.”



NJOY Ace Figure 38.g.

402. The NJOY Ace has a “heating element [N] being configured to vaporize at least the portion of the solution [M] for oral provision to an individual in the airflow.”



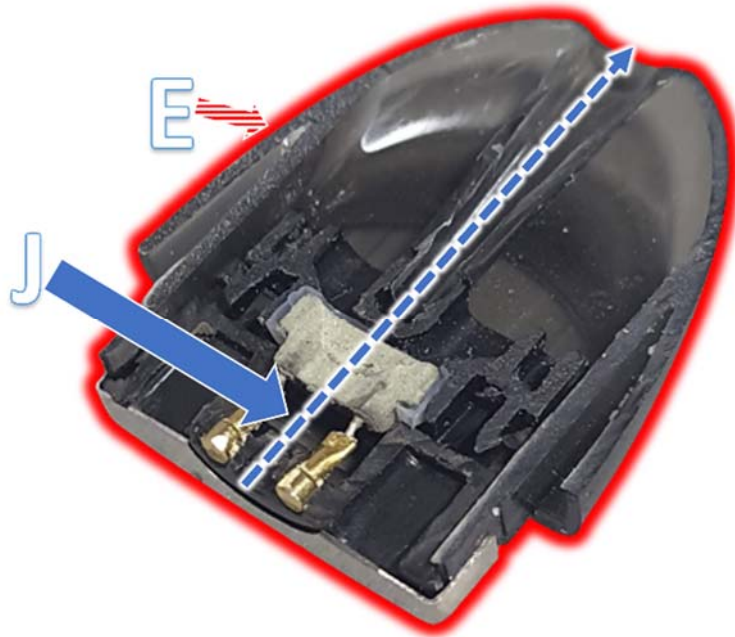
NJOY Ace Figure 38.h.

403. The NJOY Ace has a “heating element [N] being responsive to electrical power received from the power source [A].”



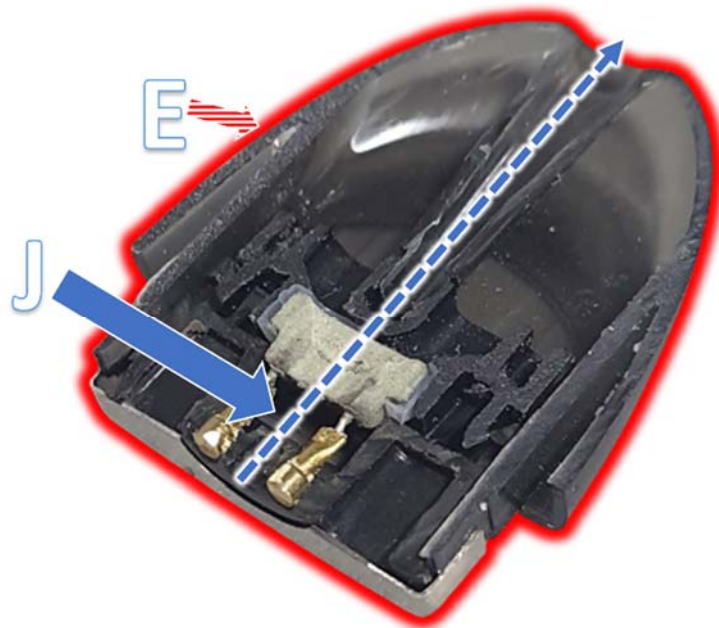
NJOY Ace Figure 38.i.

404. The NJOY Ace has “an airflow passageway [J] in the housing [E].”



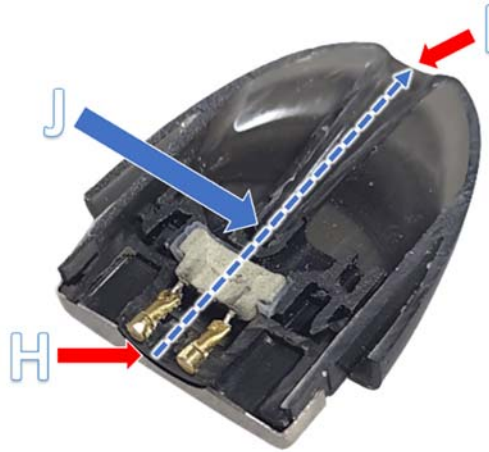
NJOY Ace Figure 38.j.

405. The NJOY Ace has “at least a portion of the airflow passageway [J] extending centrally and axially with respect to the housing [E].”



NJOY Ace Figure 38.k.

406. In the NJOY Ace, “the airflow passageway [J] extends centrally and axially from the first aperture [H] to the second aperture [I].”



NJOY Ace Figure 38.1.

407. Claim 39 of the '864 Patent reads as follows:

39. The cartridge of claim 3, further in combination with a power source adapted to be electrically coupled to the first end of the housing, the power source including a battery.

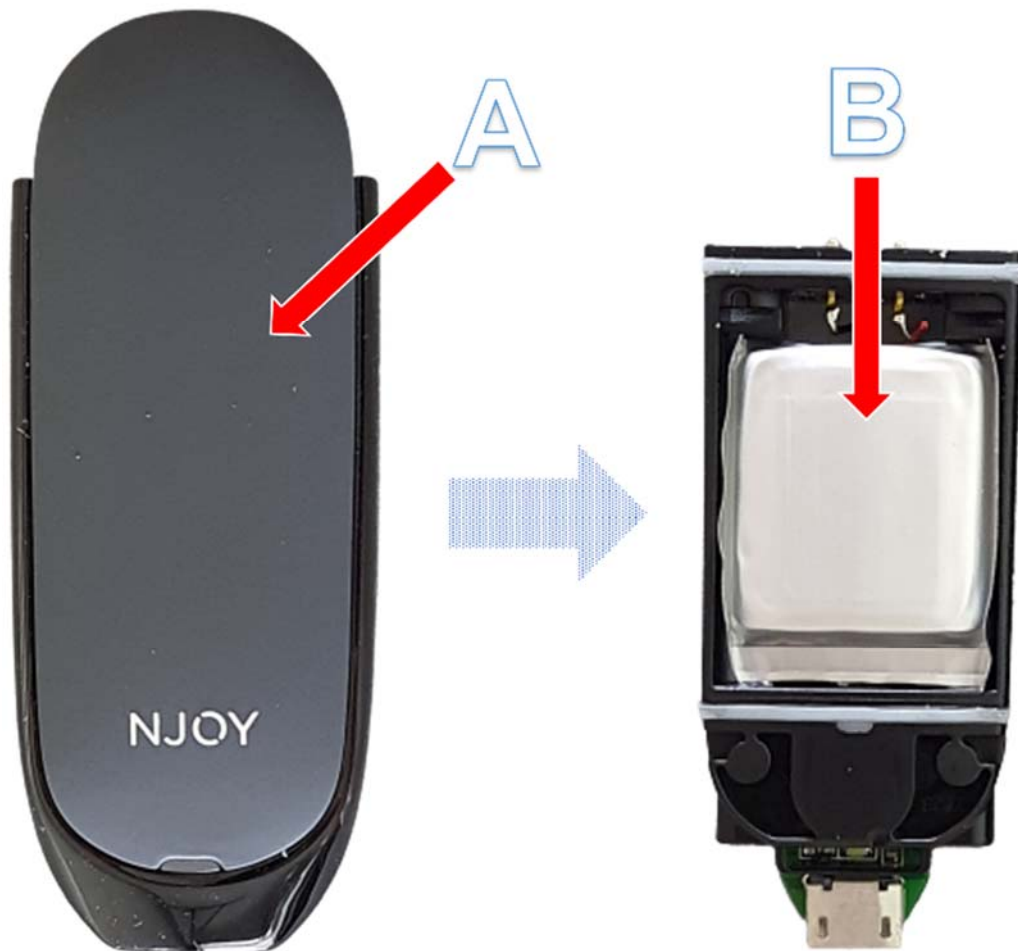
408. As shown in the figures set forth in paragraphs 409 through 410, the NJOY Ace meets every limitation recited in Claim 39 of the '864 Patent.

409. The NJOY Ace has “a power source [A] adapted to be electrically coupled to the first end [F] of the housing [E].”



NJOY Ace Figure 39.a.

410. The NJOY Ace has a “power source [A] including a battery [B].”



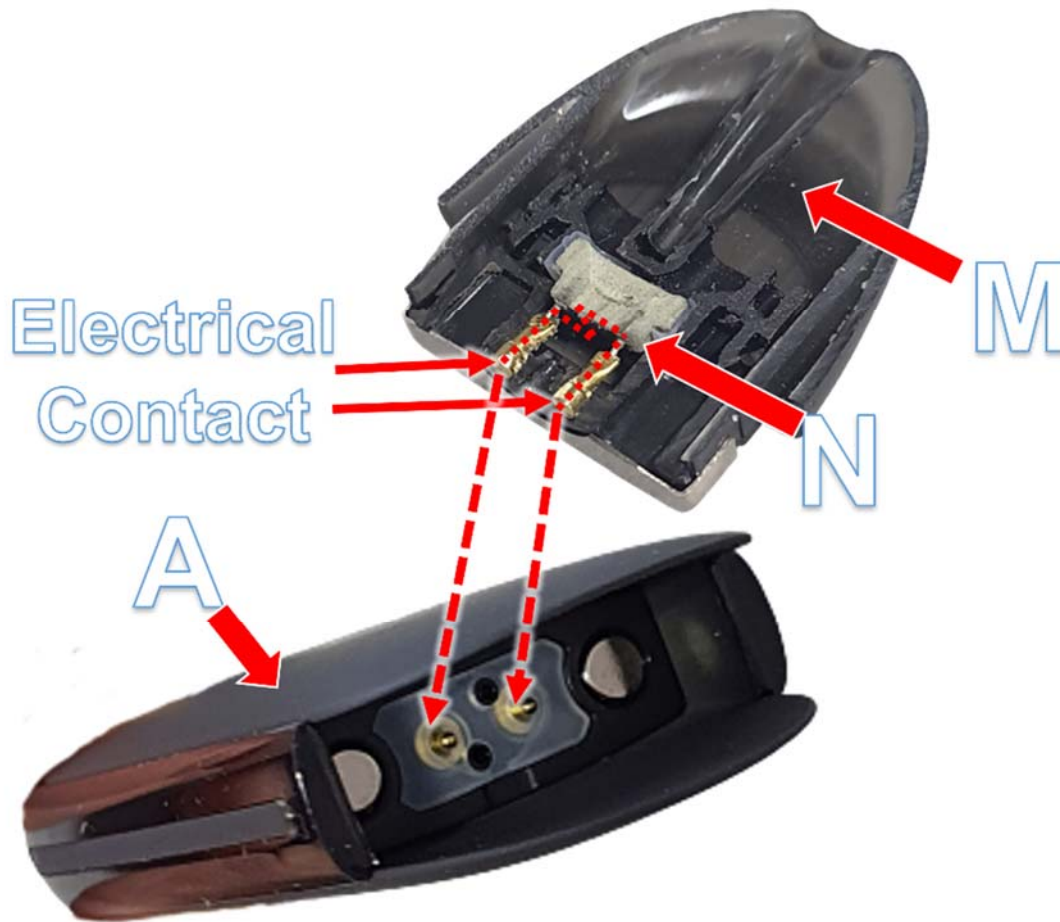
NJOY Ace Figure 39.b.

411. Claim 40 of the '864 Patent reads as follows:

40. The cartridge of claim 38, wherein the heating element comprises a material that when powered by the power source is adapted to vaporize the solution brought into contact with the heating element.

412. As shown in the figure set forth in the following paragraph, the NJOY Ace meets every limitation recited in Claim 40 of the '864 Patent.

413. In the NJOY Ace “the heating element [N] comprises a material that when powered by the power source [A] is adapted to vaporize the solution [M] brought into contact with the heating element [N].”



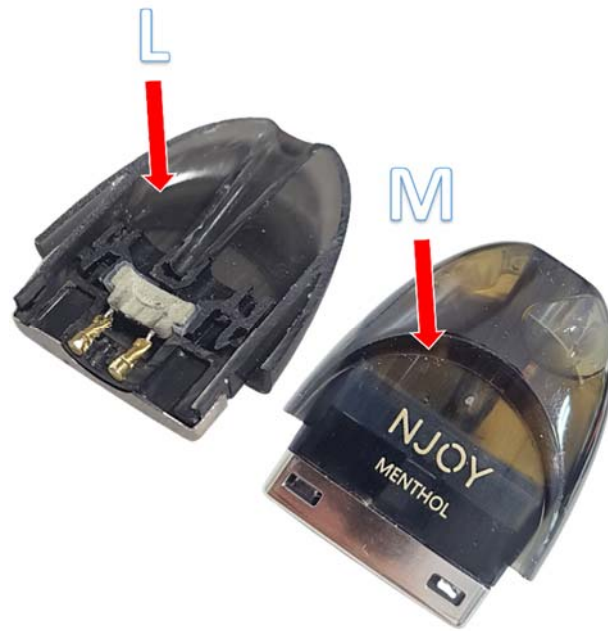
NJOY Ace Figure 40.

414. Claim 41 of the '864 Patent reads as follows:

41. The cartridge of claim 38, further comprising a solution in the solution holding medium, the solution comprising one of propylene glycol and nicotine.

415. As shown in the figures set forth in paragraphs 416 through 417, the NJOY Ace meets every limitation recited in Claim 41 of the '864 Patent.

416. The NJOY Ace has “a solution [M] in the solution holding medium [L].”



NJOY Ace Figure 41.a.

417. The NJOY Ace has “the solution [M] comprising one of propylene glycol and nicotine.”



NJOY Ace Figure 41.b.

418. Claim 45 of the '864 Patent reads as follows:

45. A cartridge configured to couple to a power source of an electronic vaporizer, the cartridge comprising:

- a housing having an interior and a solution holding medium adapted to hold a solution, the housing having a first end and a second end that is opposite the first end and a central longitudinal axis extending from the first end to the second end, the housing having a first aperture proximate the first end and a second aperture proximate the second end, the first end of the housing being adapted to electrically couple to the power source, the first aperture and the second aperture being in communication with one another to permit an airflow through the housing; and
- a heating element located in the interior of the housing, the heating element extending transversely to the central longitudinal axis of the housing and being at least partially exposed to the airflow such that the airflow entering through the first aperture will separate and then pass on both transverse sides of the heating element and then continue along an airflow path coaxial with the central longitudinal axis of the housing toward the second aperture during use of the electronic vaporizer, the heating element being configured to vaporize at least the portion of the solution for oral provision to an individual in the airflow, the heating element being responsive to electrical power received from the power source; and
- an airflow passageway in the housing, at least a portion of the airflow passageway extending centrally and axially with respect to the housing,

wherein the airflow passageway extends in a straight path from the first aperture to the second aperture with only the heating element obstructing a portion of the airflow through the airflow passageway along the central longitudinal axis of the housing.

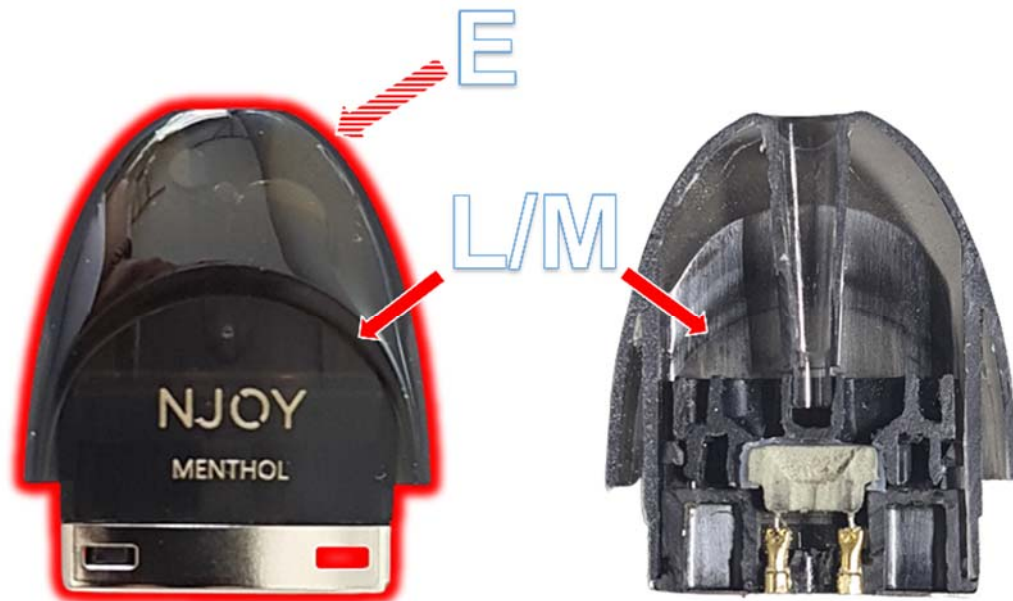
419. As shown in the figures set forth in paragraphs 420 through 432, the NJOY Ace meets every limitation recited in Claim 45 of the '864 Patent.

420. To the extent that the preamble of Claim 45 is limiting, the NJOY Ace has a “cartridge [D] configured to couple to a power source [A] of an electronic vaporizer.”



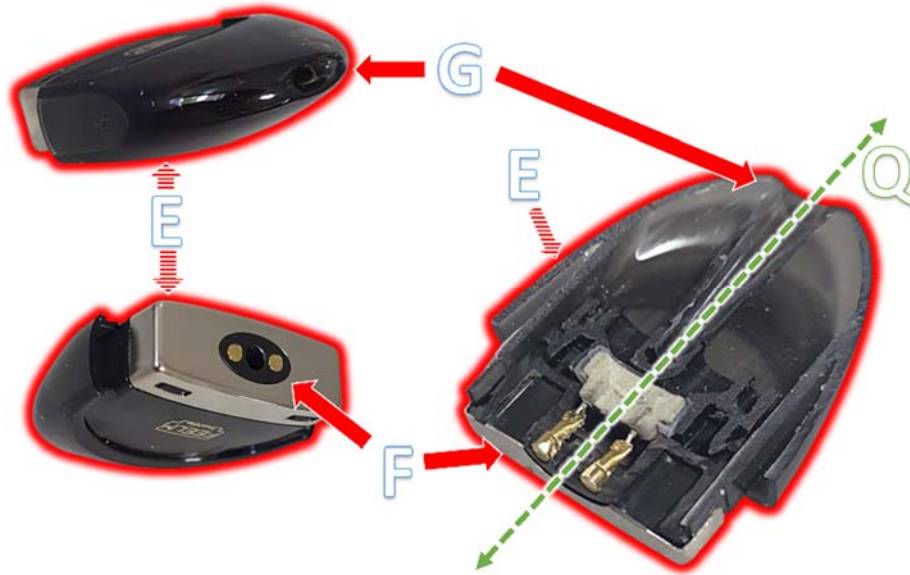
NJOY Ace Figure 45.pre.

421. The NJOY Ace has “a housing [E] having an interior and a solution holding medium [L] adapted to hold a solution [M].”



NJOY Ace Figure 45.a.

422. The NJOY Ace has “the housing [E] having a first end [F] and a second end [G] that is opposite the first end [F] and a central longitudinal axis [Q] extending from the first end [F] to the second end [G].”



NJOY Ace Figure 45.b.

423. The NJOY Ace has “the housing [E] having a first aperture [H] proximate the first end [F] and a second aperture [I] proximate the second end [G].”



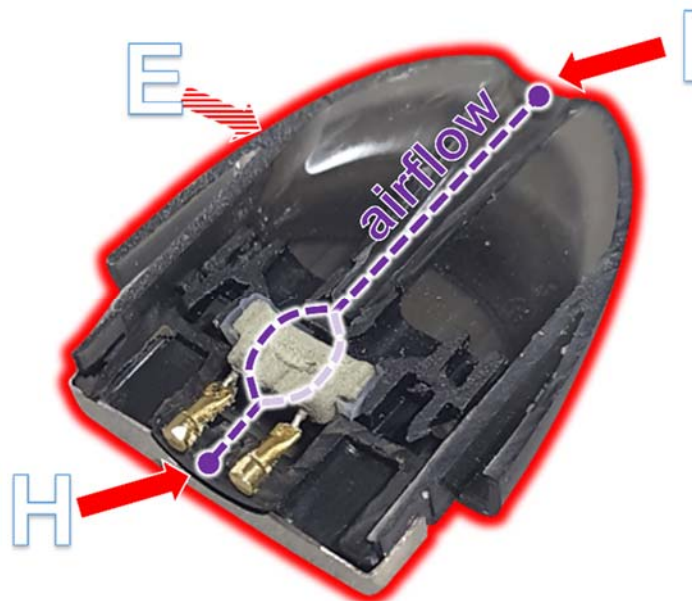
NJOY Ace Figure 45.c.

424. The NJOY Ace has “the first end [F] of the housing [E] being adapted to electrically couple to the power source [A].”



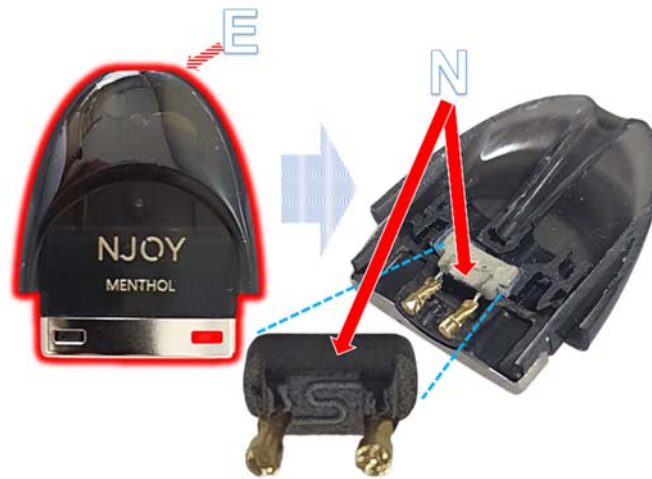
NJOY Ace Figure 45.d.

425. The NJOY Ace has “the first aperture [H] and the second aperture [I] being in communication with one another to permit an airflow through the housing [E].”



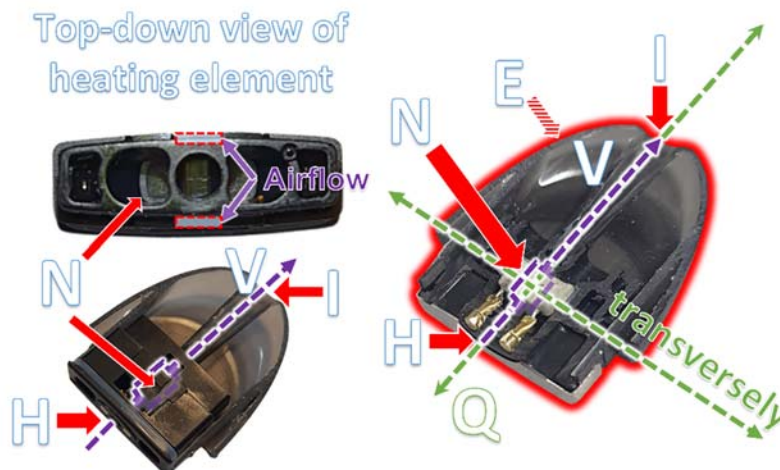
NJOY Ace Figure 45.e.

426. The NJOY Ace has “a heating element [N] located in the interior of the housing [E].” [E].”



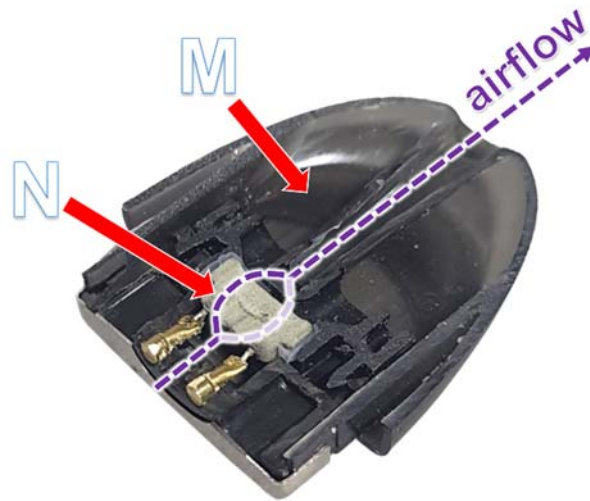
NJOY Ace Figure 45.f.

427. The NJOY Ace has a “heating element [N] extending transversely to the central longitudinal axis [Q] of the housing [E] and being at least partially exposed to the airflow such that the airflow entering through the first aperture [H] will separate and then pass on both transverse sides of the heating element [N] and then continue along an airflow path [V] co-axial with the central longitudinal axis [Q] of the housing [E] toward the second aperture [I] during use of the electronic vaporizer.”



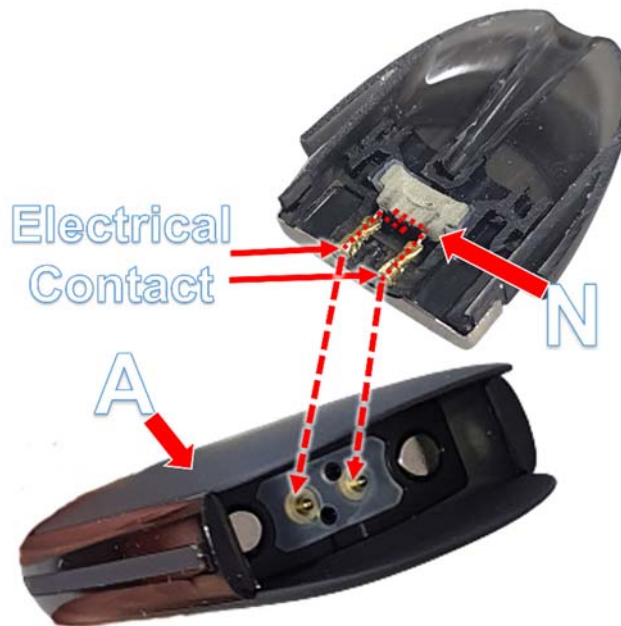
NJOY Ace Figure 45.g.

428. The NJOY Ace has a “heating element [N] being configured to vaporize at least the portion of the solution [M] for oral provision to an individual in the airflow.”



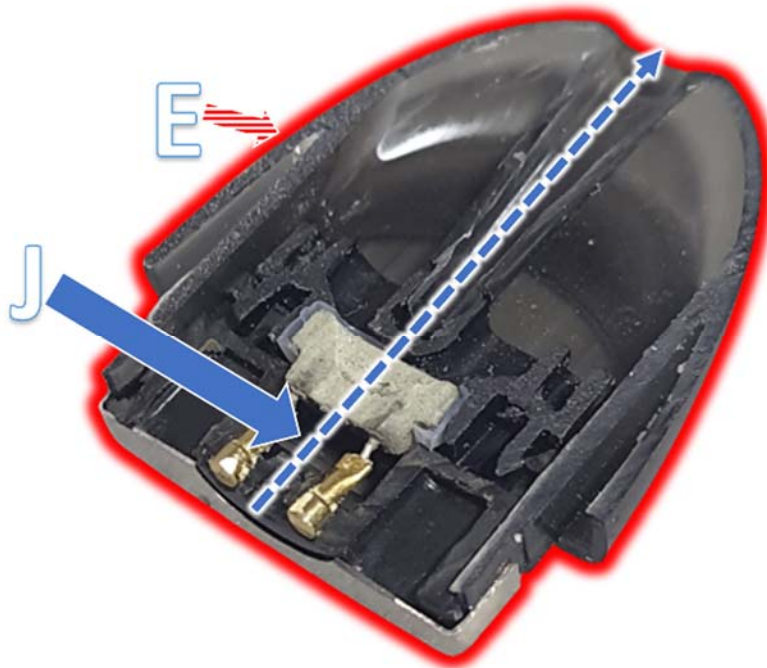
NJOY Ace Figure 45.h.

429. The NJOY Ace has a “heating element [N] being responsive to electrical power received from the power source [A].”



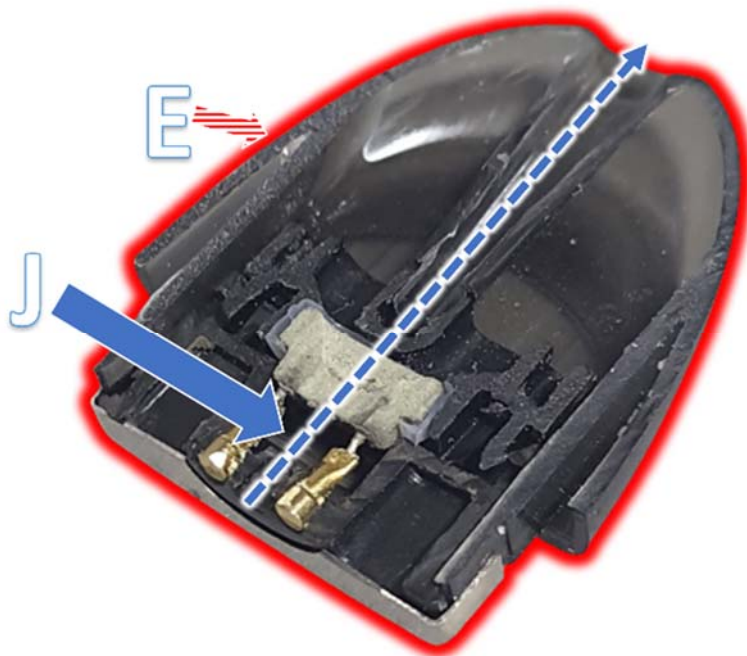
NJOY Ace Figure 45.i.

430. The NJOY Ace has “an airflow passageway [J] in the housing [E].”



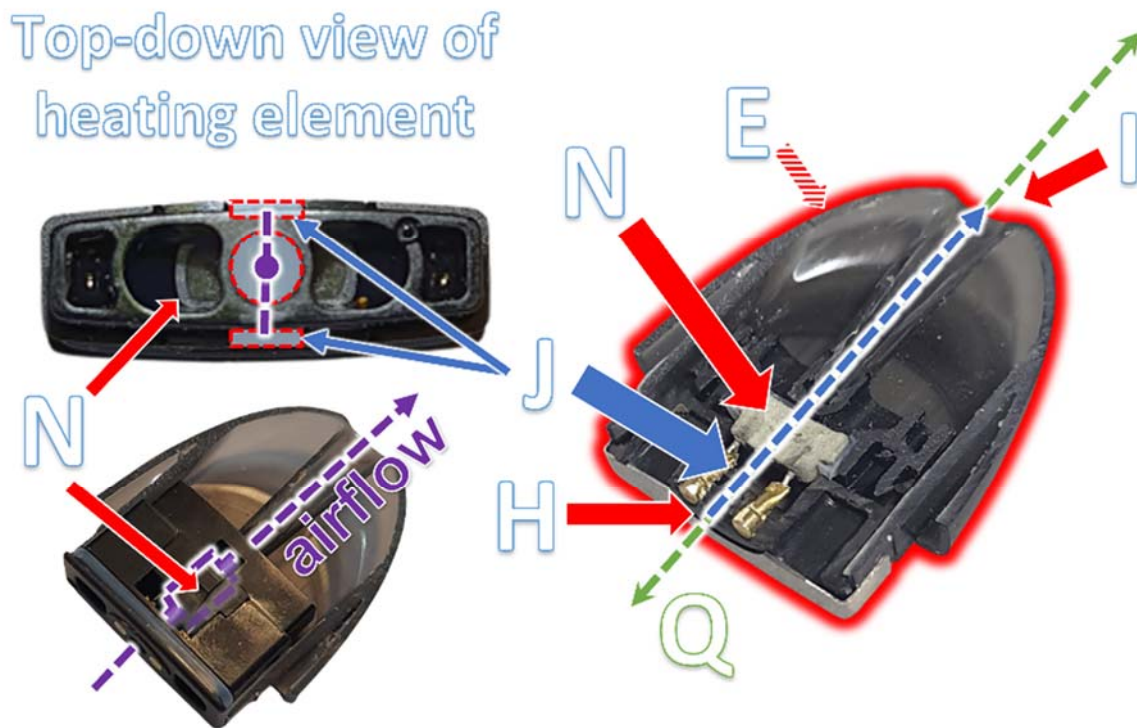
NJOY Ace Figure 45.j.

431. The NJOY Ace has “at least a portion of the airflow passageway [J] extending centrally and axially with respect to the housing [E].”



NJOY Ace Figure 45.k.

432. In the NJOY Ace, “the airflow passageway [J] extends in a straight path from the first aperture [H] to the second aperture [I] with only the heating element [N] obstructing a portion of the airflow through the airflow passageway [J] along the central longitudinal axis [Q] of the housing [E].”



NJOY Ace Figure 45.1

433. Claim 46 of the '864 Patent reads as follows:

46. The cartridge of claim 45, further in combination with a power source adapted to be electrically coupled to the first end of the housing, the power source including a battery.

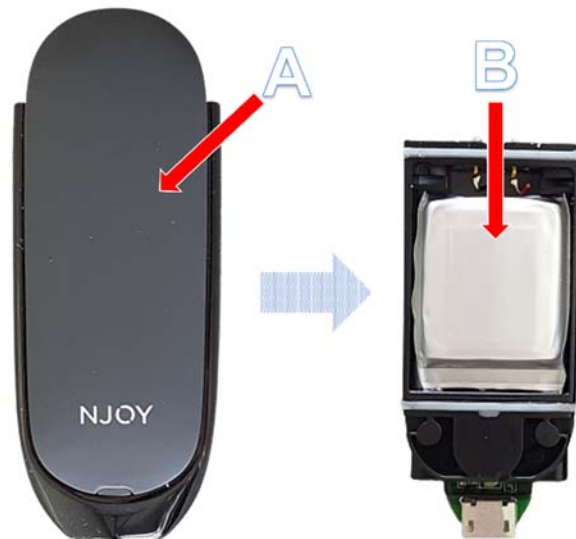
434. As shown in the figures set forth in paragraphs 435 through 436, the NJOY Ace meets every limitation recited in Claim 46 of the '864 Patent.

435. The NJOY Ace has “a power source [A] adapted to be electrically coupled to the first end [F] of the housing [E].”



NJOY Ace Figure 46.a

436. The NJOY Ace has a “power source [A] including a battery [B].”



NJOY Ace Figure 46.b

Indirect Infringement

437. Defendants have also contributorily infringed the '864 Patent in violation of 35 U.S.C. § 271(c) by, themselves and/or through their agents, contributing to the direct infringement of the '864 Patent by their customers by making, using, importing, offering to sell,

and/or selling vaporizing device components that constitute a material part of the asserted claims of the '864 Patent and that have no substantial non-infringing use, which, when used by its customers as instructed by Defendants, result in direct infringement of the asserted claims of the '864 Patent by their customers, in this judicial district and within, from, and/or into the United States, without permission or license from Fuma.

438. Examples of vaporizing device components that constitute a material part of the invention of the asserted claims of the '864 Patent that have no substantial non-infringing uses, and that contribute to the direct infringement of the asserted claims include the NJOY Ace Pod and NJOY Ace Device (power unit).

439. Defendants know and knew of the '864 Patent. First, Fuma informed Altria of Fuma's '604 Patent in March 2017, shortly after the '604 Patent issued, and engaged in substantive communications about the '604 Patent—a grandparent of the '864 Patent. Second, upon information and belief, Defendants regularly survey the patent literature—and especially that of their competitors—for relevant patents and have encountered the '864 Patent. Third, Fuma informed Altria that it infringed the '604 Patent in May of 2022 via a letter from counsel, as set forth above, with the '864 Patent issuing in the same patent family later that year. Fourth, this complaint informs Defendants about the '864 Patent. Fifth, Defendants have cited related applications to the patent-in-suit during prosecution of their own patents. For example, Altria cited applications directly related to the '864 Patent, U.S. Patent No. 8,897,628 (which has the same specification and corresponds to the patent-in-suit) during the prosecution of at least U.S. Patents Nos. 10,729,177, 10,518,243, 10,433,580, 10,433,585, 10,426,198, 10,420,374, 10,368,580, 10,368,581, 10,357,060, 10,314,338, 10,264,821, D847,419, D797,990, D790,122,

D782,108, D767,820, and D767,822, European Patent Application Nos. 3,048,911 and 3,659,451, and Canadian Patent No. 161,693.

440. Upon information and belief, having knowledge of the '864 Patent, Defendants were aware that the purchase and use of the accused products, and components of the accused products, by Defendants' customers results in direct infringement of the patent-in-suit by those customers when used as intended, as designed, and as instructed by Defendants.

441. Defendants instructed users on how to use the NJOY Ace product and components of the same. (See Ex. Q, NJOY Ace User Guide).

442. Defendants instructed users to purchase and use replacement NJOY Ace Pods when they are depleted. (See Ex. Q, NJOY Ace User Guide ("Change the ACE POD when there is: No visible liquid in the pod OR A change in taste OR A noticeable reduction in vapor.")).

443. Furthermore, Defendants instructed users that the NJOY ACE Device (power unit) is only meant for use with NJOY Ace Pods. (See Ex. Q, NJOY Ace User Guide ("This product is intended for use only with NJOY ACE PODS")).

444. The NJOY Ace Pod contributorily infringes the '864 Patent because it meets every element of the asserted claims except those requiring a power source. The NJOY Ace Pod can only be used with NJOY Ace Device, and the NJOY Ace Pod, when used with its corresponding power unit, meets every limitation of the asserted claims. Thus, the Ace Pod has no substantial non-infringing use and contributes to the direct infringement of the '864 Patent.

445. The NJOY Ace Device contributorily infringes the '864 Patent because it meets those elements of the asserted claims requiring a power source. The NJOY Ace Device can only be used with NJOY Ace Pods, and the NJOY Ace Device when used with the NJOY Ace Pod

meets every limitation of the asserted claims. Thus, the NJOY Ace Device has no substantial non-infringing use and contributes to the direct infringement of the '864 Patent.

446. As such, Defendants know that the NJOY Ace products and components of the NJOY Ace, including, but not limited to, the NJOY Ace Device and NJOY Ace Pod, when sold separately, have no substantial non-infringing uses other than to provide users with the ability to assemble and use a vaporizing device that directly infringes the '864 Patent, and, therefore, that they are especially made or adapted for use in direct infringement of the '864 Patent.

447. The NJOY Ace Pod and NJOY Ace Device of the NJOY Ace product are components of a single assembly or parts of a complete machine that together constitute a functional unit. As such, Fuma is entitled to damages for sales of the accused products, whether the Pods and Devices are sold separately or together, either as direct infringement, indirect infringement, or as convoyed sales.

448. As a direct and proximate result of the infringing acts of Defendants, Plaintiff has suffered, and is entitled to, monetary damages that adequately compensate Fuma for Defendants' infringement, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

449. Defendants' continuing infringement has inflicted and, unless restrained by this Court, will continue to inflict irreparable harm upon Plaintiff, such as reduction of Plaintiff's proper market share and deprivation of Plaintiff's rights to exclude others. Plaintiff has no adequate remedy at law. Plaintiff is entitled to injunctive relief enjoining Defendants from engaging in further acts of infringement.

WILLFUL INFRINGEMENT

450. Fuma hereby realleges each allegation set forth in the paragraphs above as if fully set forth herein.

451. As set forth above, Defendants know and knew of the '604, '881, and '864 Patents. Fuma informed Altria of the '604 Patent as early as 2017 and also informed Altria that it infringed the '604 Patent in May of 2022 via a letter from counsel, as set forth above. Defendants proceeded to infringe the patents-in-suit despite a high probability that its actions constituted infringement of valid claims of the patents-in-suit. Thus, Defendants' infringement of the patents-in-suit is and was willful and deliberate. That egregious infringement behavior entitles Plaintiff to increased damages under 35 U.S.C. § 284, and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

PRAYER FOR RELIEF

WHEREFORE, Fuma prays for the following relief:

- 452. A judgment that Defendants directly and/or indirectly infringed the '604 Patent;
- 453. A judgment that Defendants directly and/or indirectly infringed the '881 Patent;
- 454. A judgment that Defendants directly and/or indirectly infringe the '864 Patent;
- 455. A permanent injunction preventing Defendants and their respective officers, directors, agents, servants, employees, attorneys, licensees, successors, and assigns, and those in active concert or participation with any of them, from engaging in infringing activities with respect to the patents-in-suit;
- 456. A ruling that this case is exceptional under 35 U.S.C. § 285;
- 457. A judgment and order requiring Defendants to pay Fuma damages under 35 U.S.C. § 284, including supplemental damages for any continuing post-verdict infringement up

until entry of judgment, with an accounting, as needed, as well as treble damages for willful infringement under 35 U.S.C. §285;

458. A judgment and order requiring Defendants to pay Fuma's costs of this action (including all disbursements);

459. A judgment and order requiring Defendants to pay pre-judgment and post-judgment interest on damages awarded; and

460. Such other and further relief as the Court may deem just and proper.

DEMAND FOR JURY TRIAL

461. Plaintiff Fuma International LLC hereby demands a trial by jury on all issues triable by a jury.

Dated: June 8, 2023

/s/ Brandon M. Jordan
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**Appearing Pro-Hac Vice*

Counsel for Plaintiff *FUMA INTERNATIONAL, LLC*

CERTIFICATE OF SERVICE

I hereby certify that on the day of June 8, 2023, I will electronically file the foregoing with the Clerk of Court using the CM/ECF system. I will then send the document and a notification of such filing (NEF) to all defendants via email to the Defendants' attorney, who has agreed to accept service via email:

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